Health Research in Saskatchewan: Charting a Path

November 2003

Prepared for:
Saskatchewan Health Research Foundation

Prepared by:
On Management Ltd.
Judy Birdsell, PhD

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HIGHLIGHTS

- Health research is highly valued and seen as a key part of a strategy to address health issues in the province of Saskatchewan and beyond.

- Stakeholders feel that SHRF should set a focused strategic direction and move definitively to achieve identified goals.

- The health status of Aboriginal peoples in the province is a critical component that needs to be addressed. This is important not only because of health issues, but also because the contribution of Aboriginal peoples is key to the economic future of the province.

- Priorities for health related research include: the health of Aboriginal peoples, health systems and policy, specific health focuses (e.g. lifestyles, diabetes, mental health, injuries), and food safety and environmental health.

- Mechanisms identified as essential for supporting progress in health research include:

  - a strong active foundation of research activity,
  - people, especially increased strength in the established investigator category who can then act as magnets for young investigators,
  - enhanced connectivity between those involved in the research enterprise,
  - enhanced physical plant and administrative support, and
  - public, organizational and policy support for research.

- Many organizations must make specific contributions to research to see maximum effect: SK Health, universities, health regions, health charities, public interest groups and organizations specifically structured to support the research enterprise (e.g. SHRF, Health Quality Council).

- Focused attention on all aspects along the spectrum of knowledge utilization - knowledge generation, knowledge transfer and knowledge uptake - is required to achieve maximum return on research investments.

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A. BACKGROUND

The Saskatchewan Health Research Foundation (SHRF) was established in 2003 with a mandate to organize, manage and allocate most of the province's health research funding. SHRF's legislation directs it to facilitate health research, generate additional funds for research, help establish and implement provincial priorities, and communicate research results to health professionals and the public. In addition, SHRF will ensure that research is funded on the basis of scientific merit and leads to benefits for the health system and the province.

The Foundation is keen to work concertedly to improve the accomplishments of and contributions from the health research enterprise and has embarked on a process of seeking input to shape health research in the province.

In early 2003, the Minister of Health asked SHRF for advice and assistance in developing a provincial health research strategy. This strategy will establish priorities and directions for health research in Saskatchewan. Specifically, the Minister asked for advice about:

- identifying strategic advantages for Saskatchewan-based health research;
- articulating a balance in the different forms of health research;
- establishing priorities for health research; and
- ensuring health research contributes directly to the improvement of health services, health policy and the health status of Saskatchewan people.

SHRF established a process through which to seek input from key stakeholders about the future of health research in the province. This report is the result of that process. This input will shape the Foundation's advice to the Minister of Health and also its own future.

B. THE APPROACH TAKEN

There were four components to the input seeking process: interviews with key informants; review of existing documents and selected data; a broad, predominantly Web-based, survey open to anyone in Saskatchewan; and roundtable discussions for invited participants. A timeline of key activities within the consultation process follows:

May-June 2003	Review of background documents and key informant interviews.
July-August 2003	Preparation of discussion document 'The Future of Health Research in Saskatchewan: We need your input!' to be used in consultation process.
September 15-October 15	Web-based survey (invitations by e-mail, mail, and personal distribution).
November 17-21	Facilitated roundtable discussions.
November 25-26	Initial Board consideration of input.
Late 2003 or early 2004	Advice to the Minister of Health.

Document Review

A wide range of documents were consulted including policy documents from within the province, planning and review documents from the universities, annual reports from major health regions, plus statistical reports developed by provincial and national agencies.

Key Informant Interviews

Telephone interviews were conducted with 15 key informants. The purpose of these interviews was to obtain information about health research in Saskatchewan, including which areas are strong, what opportunities there are and what particular issues are faced. These interviews helped shape subsequent consultations with Saskatchewan stakeholders.

Survey

One hundred and fifty seven individuals responded to the survey included with the discussion document entitled 'The Future of Health Research in Saskatchewan: We need your input!' (the discussion document can be viewed at www.shrf.ca/discussion_paper.html). The survey was conducted between September 17 and October 15, 2003 and invitations to participate were circulated by e-mail, mailed copies and copies distributed in person. A full report of the survey results is in Appendix 1.

Roundtable Discussions

From November 17-21, six facilitated roundtable discussions were held; two in Regina, three in Saskatoon and one in Prince Albert. These discussions involved approximately 90 individuals who were invited as they represented key stakeholders in the province. Taking part in the discussions were individuals affiliated with universities, government, health service delivery

organizations, professional service providers and community agencies. A full report of what was heard at the roundtable discussions is included in the Technical Report in Appendix 2.

Detailed results of input can be found in the Technical Reports of the Survey and Roundtable Discussions. This report consolidates input received from the two major processes and also introduces to the degree possible, additional information to consider in key areas.

C. THE SASKATCHEWAN CONTEXT

There is a very strong 'sense of place' among contributors to this consultative process. Key features of the SK environment which are felt to be important include: a relatively stable population; a history of health reform and innovation; relatively small research community which enables collaboration and 'knowing one another'. Respondents are very familiar with the demographic and geographic profile of the province and feel strongly that health research priorities should reflect that which is 'unique' to Saskatchewan. Things such as a relatively high proportion of Aboriginal residents (with poorer health status); higher proportion of elderly residents and distribution across wide geographic spaces are all part of the SK context which should influence research directions. The fact that the Aboriginal community, and especially the young people, are a key component contributing to SK's future, make it imperative to address health issues in that population.

During the course of consultations, there developed a sense that health research is an important topic to a wide range of SK residents, and not just primarily those engaged in 'doing' research or located in university settings. Those participants in the roundtable discussions from community and health organizations were very actively engaged in the research oriented discussions. It is clear that the topic resonates deeply with a broad range of audiences in the province who reflect a willingness to contribute to ongoing research related endeavours.

D. FOCUS AND ACT

Focus and Commitment

Perhaps the strongest and clearest message arising from this consultation was that there needs to be clear focus and definitive and committed action in health research in SK. The province is too small to be 'all things to all people'. The overwhelming sense was that SHRF and the province should show leadership by focusing attention, energy and resources to strategic priorities in the province. There are two dimensions directly related to creating focus and momentum: choosing directions for focus and adequate resources.

With respect to choosing directions and setting priorities on which to focus, there are a couple of approaches to consider. One approach is that of considering how to allocate resources among the four areas of research used by the Canadian Institutes of Health Research (CIHR) in their planning and reporting (basic biomedical; clinical; health services delivery and policy; and social, cultural and environmental influences on population health). Another approach which arose out of the consultations is to set strategic priorities based on substantive needs and circumstances within the province, and to allocate resources and measure progress against those priorities (regardless of the type of research done to address them). This latter approach was strongly supported by participants in roundtable discussions. That being said, on balance, and based on the specific priorities which emerged, it points to increased investment in the applied research side of the spectrum.

Later in this report, some suggestions for specific priorities which arose in consultation are provided, but in a general sense, participants did identify attributes of research that were important. These included:

- Identify areas of strategic importance which reflect SK context, and focus there.
- Build on areas of strength and potential.
- Identify niche areas where SK could build global reputation for research.
- Proportion of resources to curiosity driven versus strategic research.
- Reporting on social, economic, and educational benefits accrued from health research.

Adequate Resources

The point was made that unless there were significant additional resources committed to health research in SK, there really was no need for a strategy. Sentiments such as 'get serious about health research'; and 'show the federal agencies we're serious' were made. Target amounts of $20 million per year or one percent of the health budget were frequently offered as what the investment should be.

E. PRIORITY AREAS FOR RESEARCH ATTENTION

The Health of Aboriginal Peoples

The health of Aboriginal peoples is of key strategic importance to SK. In the survey, identifying a specific target group was the most commonly used approach, and on this dimension, Aboriginal people were by far the most commonly mentioned group. The suggestion that research relevant to the Aboriginal community in SK is important was well supported by rationale and comments. The fact that the Aboriginal population is increasing, that it is growing as a proportion of SK population, that they experience a disproportionate burden of illness, and that the Aboriginal population in SK is a bigger proportion of the provincial population than in any other province were all mentioned.

Some suggested that SK was uniquely placed to do something about the issue, and that a strong and productive Aboriginal sector is critical to SK's accomplishments in future. So, while there are many health issues among this group; they also represent a key component of strength for the future, making focused attention in this area even more important.

Health Systems and Policy Research

Although this was a very common theme among respondents and across groups, there were no specific topics that dominated. Themes which emerged related to utilization (e.g. impact of healthy living and other programs on utilization), evaluating efficiency effectiveness and quality, staffing mix and models, service delivery models (e.g. primary care) and resource allocation. In the roundtable discussions, this general topic also emerged, but with increased emphasis on community-based and community-focused research. This no doubt reflected the fact that the proportion of community representatives was greater in the roundtables than in the survey, but the centrality of 'community' in research of importance to SK was evident.

The respondents' sense of pressing health issues closely reflected priority areas for research (Aboriginal health and health system and policy research). There was one other topic that received strong mention as a pressing health issue, and that was the issue arising from the aging of the population. This was perceived by many to be a pressing health issue, but did not emerge as a leading priority for research. However, inherent in comments relating to the health services and policy area were references to the challenges of providing services to an increasingly older population.

Specific aspects within the health services and policy arena which were mentioned included such aspects as examination of various service delivery models for the health spectrum (health promotion, health care services) to a sparsely and widely distributed population, primary care models, staffing mix, and the ideal configuration of services.

Specific Health Focuses

There were no particular disease or health focuses which dominated the responses in the survey, but many specific ones were mentioned. The two topics which were mentioned somewhat more frequently were diabetes, and lifestyle and health (including such aspects as

obesity, chronic disease prevention). Across the spectrum though, many conditions were mentioned by a few individuals: environmental health, mental health, multiple sclerosis, cancer, heart disease, agricultural medicine. Many respondents who mentioned Aboriginal people as a particular focus mentioned specific diseases in that context (diabetes, injuries, etc). A predisposition to think about prevention and a holistic approach to heath (including consideration of things such as housing and clean water, for example) was present in the roundtable discussions.

Food Safety and Environmental Health

Another topic that emerged mainly from key stakeholder interviews was one related to aspects of health about which Canadians have been reminded in powerful ways in recent months: safety of the food system and environmental health. SK has a unique combination of faculties at the University of Saskatchewan which may provide a particular advantage when thinking about interdisciplinary work to address these issues.

Additional Information to Consider: Health issues among Aboriginal people and research related topics was a predominant theme throughout this process. It should be noted that this group has expressed in many forums, and over a long period of time, that they are tired of being 'studied', and are becoming much more assertive about being integrally involved in all aspects of the research process. Dr. Jeff Reading, Scientific Director of the Institute of Aboriginal Peoples' health was quoted as saying "Involving Aboriginal people in the development of research into Aboriginal health is critical to finding long-term solutions that address the serious problems in the community," [1]The Tri-Council Policy Statement on Ethical Conduct for Research Involving Human includes a section (Section 6) which specifically addresses research involving Aboriginal peoples[2]. There is a University of Saskatchewan based committee, meeting for the first time in December, with hopes of having revised guidelines to inform research processes by summer 2004. As well, the Tri-Council is embarking on information consultation sessions in 2004 and anticipates new guidelines in 2005.

There has been recent work in SK summarizing key outcomes and indicators of health and the health system in the province. Key points from these reports as they relate to the topic of pressing health issues and priorities are included in Appendix 3.

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[1] Press release CIHR August 2002; www.cihr-irsc.gc.ca/e/institutes/iaph/9167.shtml#?
[2] Policy statement can be found at www.pre.ethics.gc.ca/english/policystatement/policystatement.com

F. MECHANISMS TO SUPPORT PROGRESS

A Strong and Active Foundation

When all comments were considered together, there is a sense of a foundational structure that is needed in the province to support effective research accomplishments. Terms that were used in roundtables to describe this foundational activity included a 'bubbling foundation' and 'strong foundation' depicting a baseline level of activity and resources that enable timely targeted activity and progress across the health research spectrum. If there is a foundation of activity and broad strength, it enables focused and targeted attention to priorities as they arise. This foundation consists of people, connections among people and infrastructure and is enhanced by a supportive environment.

People – The Human Research Resource

Human resources engaged in the research process are the fundamental building block. Establishment grants received from provincial sources were credited by several participating in the roundtables as being instrumental in their decision to come to the province. With respect to the university setting, there were two primary targets identified: recruiting young people into the research system, and supporting established investigators. There is a great deal of support for engaging young people, starting at the high school level, and exposing them to research in hopes that some will be enticed into staying. Keeping young people in SK is a high priority in the province, and not just within the health research system[3].

Strengthening the ranks of established investigators in the province is also important. It became clear in the roundtable discussions, it is this more senior group of investigators who are really the 'engine' of research growth. Senior investigators act as a magnet for students, young researchers and peer reviewed funds. There is a distinct limit to the return on investment of a large number of young people, if there are limited senior mentors in the system. Increased accomplishment could potentially come from two sources: new senior investigators and enhanced research productivity of those already in the system. A target of 10-20 new research chairs was suggested by one participant. The topic of needing mechanisms for 'release time' to do research was also predominant in the survey. As one respondent stated 'We've got the brains; the brains need the time'. The types of individuals identified as needing release time were those with clinical responsibilities and also individuals totally in the service delivery domain (practitioners and managers).

While there are many contributing factors to a successful research initiative or program; it is highly unlikely that they will happen without the passion and leadership of committed champions. In 2004, it is important that strong leadership of cross-sectoral, inter-disciplinary approaches be present.

The human resource imperative is not limited to the university setting. Representatives from health regions and also from other community based organizations also spoke about the need

[3] A study by the Canada West Foundation reports that 'retaining young people" beats out 'improving the health care system' as a priority in Saskatchewan. (Berdahl, L. (2003) Looking West 2003: A survey of western Canadians).

for time and skills to engage optimally in doing and using research. This topic was mentioned almost as frequently as the need to engage and recruit young people into the research system. These personnel were variously described as research, knowledge transfer, or policy development personnel.

Connections Among People

The need for improved connections among individuals involved in varying aspects of research was the predominant theme in response to the survey question about missing mechanisms in SK. There was an underlying sense that individuals needed to have a higher general level of knowledge about 'who was doing what, and who was interested in what'. This was the case despite the assertion that the relatively small size of SK was an advantage when it came to working collaboratively. Some sort of research network was mentioned by many respondents as being a mechanism that would allow a relatively efficient way to engage.

Several axes upon which better collaboration and more productive relationships were needed were articulated: between government and research; among researchers themselves (to support the functioning of interdisciplinary groups); researchers and those being studied; and between the health and education sectors (particularly at post secondary level); and finally, between researchers and personnel in health authorities and community groups. The latter category garnered very strong comments which covered many reasons why better collaboration was required: to develop research questions, to provide staff relief funds to enable research, to enhance clinical research, to enhance uptake of research, to foster better understanding of respective roles, and generally to work towards improvement of conditions that determine health. More effective relationships between health system personnel and researchers was a predominant wish.

Infrastructure

Infrastructure consists of two types of resource: physical plant and administrative components. Several comments referred to the planned building at the University of Saskatchewan, with positive comments reflecting hopes for more core facilities (and technical staff to support them), commercialization space, a safe operating environment and concomitant movement to more research group structures. A couple of comments, however, reflected fear that the ambitious building plans would consume all available infrastructure money.

In addition to physical plant, there were several 'softer' components of infrastructure mentioned that would make a significant contribution to research progress. Administrative support is important in both university and community settings to support research. With increased opportunities for funding often comes increased expectations for partnering, both between disciplines and organizations. Organizing events and meetings and developing relationships to facilitate the development of applications is a considerable burden. Researchers expressed a need for technical and administrative support (and sometimes professional). There is a sense of researchers spending too much time completing reports and doing other bureaucratic tasks. Professional assistance, vis a vis statisticians and writers would also facilitate the research process.

Other things mentioned by individuals included adequate investment in teaching infrastructure, establishment of community research ethics processes in Aboriginal communities, and communication systems to ensure sharing and impact of research to all interested communities (researchers, professionals, public).

Supportive Environment

Supportive environments can be described as being of three types: public, policy and organizational. Public and acknowledged support by the government for research is seen to be an important enabler. If the province were to provide a significant bolus of funds to research, this would send a very important signal to the SK public and others outside the province that SK is 'serious' about making improvements through research. Another example of how the government could assist would be if SK Health created explicit expectations for regions to be involved in research (and allocated resources and attention to achieve this end).

Organizational policies have a direct effect on research activities. Regional policies related to standardized fee schedules for services rendered during clinical trials (perhaps a single overhead charge) would facilitate research in clinical settings. Access to clinical settings is critical for some types of research. There was a fairly strong sense that health regions are not supportive of research, and that it would help if regional leadership were supportive. There were several examples given where very small research grants available at the organizational level made important contributions, both to a specific clinical problem, but perhaps more importantly to the feeling of staff members that they could be effectively engaged in the research process.

Public support for research is seen to be very important. The public likes to hear of progress being made or success stories, and is generally very supportive of health research. Individuals empowered with knowledge and encouragement to influence their own health, are an important part of the system. Individuals (acting alone or in affiliation with an advocacy group) can be powerful adjuncts to the health research system. Enthusiastic public support could translate into more money for research, either through direct donations, or through advocacy efforts toward more investment in health research. There was a suggestion that starting to engage SK residents in thinking about health research should begin at a young age (high school).

There was a very explicit plea from Aboriginal communities AND non-Aboriginal community based organizations that researchers in universities do research WITH us, and not ABOUT us.

Specific Organizational Structures

Two types of structures were recurring themes in the input received. One type was oriented toward sharing and disseminating research information, and the other related to creating research centres designed to enhance cross disciplinary work. One quite specific example of a centre was one related to studies in health systems and policy, that the writer suggested be placed in a non-traditional faculty (e.g. sociology or political science) but with close links to the Health Quality Council (HQC), and to SPHERU (Saskatchewan Population Health and Evaluation Research Unit (SPHERU) and both universities including several different faculties. This centre was envisioned to involve the public in a 'think tank' mode, and to have special

programs for applied researchers and decision makers. The current lack of a cross disciplinary policy unit was stated as a problem.

A proposed knowledge sharing centre was variously described as a 'clearinghouse' or a centre for the collection, analysis and dissemination of research results. The purposes envisioned for such a centre varied among respondents, from highlighting SK research (presumably to a wide audience) to one reflecting close collaboration among government, community and universities. The underlying message seemed to be that respondents felt there was a need for some specific structure to address the research transfer component.

G. ORGANIZATIONAL ROLES AND RELATIONSHIPS

There is clearly a commitment among SK stakeholders to view research as an inherent component of the health system in the province. This is formalized in the mandate of the SHRF which includes a statement about ensuring that health research leads to benefit for the health system and the province. To achieve that type of outcome requires the involvement and contribution of many organizations in the health system. This section highlights input received which addresses the topic of the roles and respective contributions of various organizations in the province.

Organizations Involved in the Research System

When thinking about the province as a knowledge utilization system, it is clear that there are several organizations which play a role, and ultimately it will be important for all stakeholders to understand the nature of the respective roles. In the roundtables, there was a lack of understanding of these roles reflected in comments and questions. This is not surprising, considering the stage of evolution, and that organizations such as the Health Quality Council, the SHRF and the Academic Health Sciences Network are just in the early stages of their existence. Organizations in the province which were identified as needing to be part of the knowledge utilization system include: universities, the Health Quality Council, SK Health, health charities, SK Cancer Agency, and health regions. Several discussions reflected the need and desire for some sort of 'gateway' to information and knowledge; often described as a clearinghouse, or a coordination centre. Some suggested that the Health Quality Council could fulfill this role.

The private sector

There are mixed (and strong) feelings with respect to partnerships with the private sector, and particularly the pharmaceutical industry. In one roundtable discussion, there was general agreement with the statement that 'no one should profit from publicly funded research done in public institutions. Some in this group felt that while profit should not DRIVE action, it should be incorporated as a goal when it seemed a natural byproduct of activities done primarily for other reasons. In another group, they felt that even if pharmaceutical company gave money with 'no strings attached' that there would be an implicit sense of 'obligation' which would influence research. However, in another group there was a strong sense that health research was an important contributor to the economic wellbeing of the province, and that there were numerous opportunities to engage private sector interests for general benefit.

Saskatchewan Health

Many see the actions of the government as being instrumental in moving the health research enterprise ahead. In addition to the critical funding component, the symbolic value of the responsible government department making very strong statements, and also creating expectations with respect to other stakeholders in the province was noted (e.g. having explicit expectations about the role of health regions in research).

Health charities

Health charities are important funders of health research in SK. There is opportunity to work directly with charities to increase public support and provincial support (and perhaps funding) to

health research. Charities are an important mechanism through which to influence public policy about such things as tax incentives and priorities for action.

Regional health authorities and community based organizations
Partnerships between researchers and those who use research knowledge are an important component of the research enterprise. Health regions are a large component of the application of research. Community partners in research feel strongly that partnering means true involvement and NOT co-option. It is clear, however, that personnel in health regions and community based organizations do not see themselves as only being involved in research uptake, but also want to be involved in knowledge generation. The Academic Health Sciences Network would seem to be an important mechanism through which to address issues related to this particular relationship.

Public interest and advocacy groups
In addition to those partners who are involved in program delivery, there are many groups in the province who have the ability to help shape future directions. Examples include 'Council of Women' in various locations and 'New North' (Saskatchewan Association of Northern Communities). 'New North', for example is organized to advocate, negotiate and initiate improvements for the interests and concerns to the Provincial and Federal Governments to enhance the quality of life for people within the Northern Administration District of Saskatchewan.

Potential Funding Partners

There were several concrete suggestions offered as potential ways to increase funds for research. Many of them involved partnering with other organizations, so are included here:

- CIHR institutes who have identified priorities that are also important to SK. Institutes are seeking partnerships arrangements on many fronts. Opportunities where money can be bracketed to return to SK would be desirable. Specific examples given include Fetal Alcohol Syndrome and Aboriginal health.
- Create or promote a situation in SK to make it particularly appealing to companies wanting to test services or products in a stable population of manageable size.
- Canadian Light Source in future should provide opportunities to attract funds.
- Facilitate public contributions directly to research. One suggestion was to create a matching program with the provincial government where each dollar given by a citizen would be matched by government. Tax incentives could be an important component.
- Foundations.
- Private sector companies with a specific link to a topic (e.g. brewing companies and Fetal Alcohol Syndrome).
- Regional partnerships in western Canada.

Role for SHRF

Respondents were not asked directly about what they thought the role of SHRF should be in the province, but several suggestions emerged. Comments supporting a role related to leadership, coordination and leverage were frequent. Consistent with the mandate, stakeholders seem not

to see SHRF as predominantly a funding agency (although of course that is one important activity). Monitoring and reporting on the overall process of research was mentioned.

Additional Information: Appendix 4 includes descriptive summary information on many of the key organizations in the province who are part of the research system. There are brief descriptions of the Academic Health Sciences Network, Health Quality Council, Regina Qu'Appelle Health Region, Saskatchewan Health, Saskatoon Health Region, University of Regina, and the University of Saskatchewan.

H. ENSURING RESEARCH MAKES A DIFFERENCE

There were five main themes emerging from discussions about knowledge translation: the importance of doing research in a particular way to enhance uptake, a conceptual framework for knowledge translation, specific organizational roles, notable examples in SK, and commercialization as a means of knowledge translation. The first two topics are incorporated into the first bullet.

A Conceptual Framework for Knowledge Translation

In one of the sessions, knowledge translation was described as being comprised of three stages: knowledge generation, knowledge transfer and knowledge uptake. Throughout the sessions, comments were made that can be linked to that framework. There are attributes of the **knowledge generation** process which contribute directly to knowledge translation. The primary underlying message here is related to the fact that many people feel you influence ultimate impact by 'shaping' the nature of research in the first place, and the manner in which it is done. Involving eventual users from the beginning (including the development of research questions) increases the chances of uptake. The point was made that involvement in clinical research increased the likelihood that research evidence was incorporated into decisions. This observation was coupled with the opinion that clinical research involvement was less predominant in SK than was ideal, partly perhaps to the misconception on many people's part that clinical research was often equated with randomized controlled drug trials. It was noted that funds for clinical nursing research are also difficult to obtain in Canada and this was described as a contributing factor[4].

The second component of knowledge translation is **knowledge transfer**. This is acknowledged to require specific skills (e.g. writing for lay audience, incorporating innovative and creative communication approaches) and resources. We are 'information rich, and understanding poor'. Approaches to 'make sense' of vast amounts of information are important in the knowledge transfer component. Examples include things such as the Cochrane Collaboration database (which the Health Quality Council is going to make available to all health organizations in SK shortly). There are examples of organizations in the province that serve a 'knowledge interpretation' role, such as Rx Files an organization sponsored by pharmacists which provides objective information on drugs to practitioners. Also, the University of Saskatchewan is taking steps to support researchers with this process, and at least two health regions have active processes (at least in the planning stages) to support knowledge transfer and knowledge uptake).

Two-way communication involving the public, care providers through a variety of mechanisms (newspapers, conferences, person to person meetings) were mentioned. Interactive relationships were often inherent in the communication topics, but were a central theme in their own right. The types of relationships respondents felt are important have been mentioned before, and include basic researchers working closely with clinical researchers, and academic researchers working with health regions (including care deliverers, administrators. The term

[4] The fact that the nursing research money has gone nationally to the Canadian Health Services Research Foundation (CHSRF), which does not support clinical research was cited as a barrier.

'translational research' (meaning from bench to clinical applications) was mentioned by several. The importance of two way relationships was mentioned by many. In general, there was a high level of engagement on the topic of transfer mechanisms and strategies.

The final component of the knowledge translation framework is **knowledge uptake**. There are many different contexts where research could potentially be used e.g. doctor/patient interactions, health region boards, program delivery, community based organizations, and they all require somewhat different considerations. Receptor capacity in the various relevant contexts is part of the solution. Inertia and difficulty in changing current practices is a significant factor in service delivery organizations, complicated of course by the demands on the daily time of practitioners and decision makers. Cycling back to the knowledge generation component, the suggestion was made that if health region boards could be involved in setting some of the strategic directions for research in the province that they may be more receptive to results when they are available.

Successful Examples in Saskatchewan

Several examples of programs or organizations in the province which exemplified important aspects of knowledge translation were mentioned. They include: various practices that HSURC[5] used to have (e.g. daily list serve messages; newsletters with brief articles on key methods to enhance knowledge transfer and uptake); community – university research partnerships such as 'In-Motion' (a large research project funded by CIHR focusing on physical fitness), Community University Institute for Social Research (CUISR), community/ university partnership research projects such as occur in Prince Albert and the Institute for Agricultural, Rural and Environmental Health (I.ARE.H).

Respective Roles of Organizations in Saskatchewan

A discussion or the roles of various organizations in the province was provided in an earlier section. Several discussions reflected the need and desire for some sort of 'gateway' to information and knowledge; often described as a clearinghouse, or a coordination centre. Although several referred to the possibility that HQC might serve in this capacity, it is not clear yet about all aspects of the role of that organization.

Commercialization as a Means of Transferring Knowledge

Commercialization as a means of transferring knowledge met with mixed emotions, as discussed earlier. With respect to needing to incorporate support for this type of knowledge transfer into a strategy, participants felt that there were resources for this type of activity from other sources in the country, and this should not be a particular focus of SHRF or the provincial health research strategy.

Additional Information to Consider: There is ongoing work in Canada (Principal Investigator – Rejean Landry from Laval University) examining factors which contribute to research utilization

[5] Health Services Utilization and Research Commission which was dissolved in early 2003 and replaced by the Health Quality Council and the Saskatchewan Health Services Research Foundation.

among various groups (physicians, managers, researchers, nurses). The results provide consistent evidence about factors which are associated with increased research uptake. In data from Alberta (where samples were augmented to facilitate analysis within the province) interpersonal relationships between researchers and decision makers (in policy and health services), linkages and exchanges of information in a variety of forums (e.g. newsletters, educational forums, internet) and attitudes toward research were consistent associated with higher research utilization. These factors are consistently associated with increased research utilization in various samples across Canada. If SK wants to ensure research utilization, it seems important to incorporate support for these kinds of activities.

The Canadian Health Services Research Foundation is just initiating a program to enhance research utilization. EXTRA is a national training program giving health-system managers (nurse and physician managers, along with health service executives) the skills to better use research in their day-to-day work. The program is also intended to help the "fellows" who are given this award increase their evidence-based decision-making in the health system. The fellows will build bridges between decision makers and researchers, and encourage "linkage and exchange" activities that support the exchange of perspectives, ideas and needs between these two groups and among executives from the health and management professions. These health-system managers will also act as important agents of change in their organizations.

The core of the program is a two-year fellowship for mid- to senior- level executives in healthcare organizations. The first cohort of fellows is scheduled to be selected in 2004, and the program has sufficient funds to run until 2016.[6]

[6] Excerpt from www.chsrf.ca, November 23, 2003.

I. MEASURING AND REPORTING ON PROGRESS

Measuring and reporting is key to monitoring progress in research. While not supporting the use of CIHR pillars for routine monitoring or allocation of resources, respondents did confirm the importance of monitoring total amount of CIHR funds earned in SK. Input on outcomes of interest was provided in both the survey and in the roundtables. Indicators which resonated across input sources are given below. The general categories are those that were given the highest level of support on the survey, but they were supported by comments in roundtable discussions. Examples are from the roundtable discussions.

Proportion of Competitive Funds Earned From National Funding Sources

This metric resonated broadly. The statement that 'The province's share of national research dollars is at least the same as its share of the Canadian population' was very strongly supported. Appendix 5 provides some data on amounts of research funds earned by SK researchers in the recent past. Although there is an inherent appeal of the population proportion measure, in fact, most provinces do not achieve that proportion. (Quebec, Ontario, and Alberta do receive research amounts from CIHR that meet or exceed the proportion of their population). There are no doubt varying reasons for that. When examining how SK does within each pillar of CIHR, SK does perform below the Canadian average in basic biomedical and clinical research. However with respect to the other two pillars (health services and policy and population health), SK earns more than 3.3% of the total Canadian funds allocated within that pillar by CIHR. So, although the actual amounts of money allocated to these pillars is a fraction of what goes into basic research, relative to the Canadian population, SK performs well in these two pillars. Whether that amount of investment is adequate to achieve the desired result in SK is open to debate.

Adequate Numbers of Highly Skilled Health Professionals in the Province

The inter-relationship between research accomplishments and activity and provision of highly skilled health care was noted by several, with the prerequisite of having adequate numbers of highly skilled health professionals. The saying that 'a good research environment leads to a good care environment' was noted.

Improved Health Service Delivery in SK

In roundtable discussions, the most predominant response with respect to outcomes that matter had to do with progress in specific health areas that had been identified as strategically important. Examples included: reduced inequity between Aboriginal and non-Aboriginal populations; ability to make decisions based on cost-effectiveness data; and improved primary health care or improved diabetes outcomes.

SK Attracts Researchers from Other Parts of the World

If SK is seen to be a 'magnet' for researchers in a few key areas, this would be seen as evidence that SK is an attractive place for research.

Additional Information to Consider: Tables showing money coming to SK from several national granting agencies is included in Appendix 5.

J. BRINGING THE INPUT TOGETHER

Consideration of the input received during the consultation process will be done by the SHRF Board as it prepares advice to the Minister of Health regarding a provincial Health Research Strategy. To assist with those discussions, the table following attempts to summarize in general categories the issues, strengths, gaps, opportunities and potential indicators of success. As the Board interprets this information through the lens of experience, strategic directions will be developed with more specifics identified.

Table: Strategic Issues, Strengths and Gaps[7]

Strategic Issues	Strengths	Gaps[8]	Opportunities	Indicators of Success
• Aboriginal health. • Health systems performance. • Lifestyle and chronic disease management. • Food safety and environmental health. • Bubbling foundation.	• Wide array of academic health programs • SK history of health innovation. • Manageable size. • First Nations University of Canada established. • Several strong research groups (e.g. VIDO).	• Established investigators. • Health region involvement in research. • Connections among people and organizations. • Knowledge broker type organizations or processes. • Admin and professional support for researchers.	• Canadian Light Source. • New physical plant. • Public support. • Institute for Aboriginal Health investing. • CIHR cross cutting initiatives in clinical research, injuries, rural and remote health. • EXTRA from CHSRF[9].	• % of funds earned from national agencies. • # Highly skilled professionals. • Improved health. service delivery • SK a magnet for researchers in key areas.

[7] There is an interesting lack of congruence between what is arguably the most compelling strategic issue (Aboriginal health) and suggested mechanisms through which to deal with this issue.

[8] There has been no attempt to connect strengths, gaps, etc., with specific strategic issues. Key observations in each area are given. Linking them will be done as part of considering all the input to determine strategic directions.

[9] Canadian Health Services Research Foundation (EXTRA is a new program for training executives in research utilization).

K. CONSIDERING THE OPTIONS

In the process of considering the input and suggestions that respondents had made, there emerged a list of potential criteria that could be used by the Foundation in making its decisions about which priority directions to recommend. These are provided for consideration, without placing relative value on any.

Criteria which could be considered as important when considering individual directions include:

- Ability to bring external money to the province.
- High probability that direction will improve SK's national ranking in federal funding for health research.
- Areas of strength are supported and strengthened further.
- Key to improving health status indicators deemed important in province.
- Will help recruit and/or retain high quality personnel within the health delivery system.
- Areas of high importance to stakeholders.
- SK can make a unique contribution.
- Gap in SK.
- Allows for efficient use of current resources (human and physical capital).
- Allows for increased uptake of health research information.
- Potential for cost-benefit.
- Timely opportunity at present.
- Will contribute to retaining young people in province.
- Create a positive and energy filled research environment in SK.
- Improve information access and transfer.
- Creates broad based public support for research in province.
- Enhances relationships among key stakeholders in health research enterprise.

In addition, there are some considerations that may be relevant when considering the 'portfolio of directions' recommended:

- Some short term and some long term goals addressed.
- Top concerns of key stakeholders are addressed.
- Areas of anticipated broad impact in province plus areas of narrow expert focus worldwide.

APPENDICES

1. Results of a Survey of Saskatchewan Residents
2. Results from Roundtable Discussions
3. Saskatchewan Health Related Statistics
4. Brief Highlights of Key Organizations
5. Health Research Funds in Saskatchewan

APPENDIX 1

HEALTH RESEARCH IN SASKATCHEWAN:

RESULTS FROM A SURVEY OF SASKATCHEWAN RESIDENTS

OCTOBER 2003

HEALTH RESEARCH IN SASKATCHEWAN: CHARTING A PATH

HIGHLIGHTS OF SURVEY

- Strong calls for more people engaged in research; and a focus on knowledge translation, collaboration and creating a supportive environment were identified as key actions to enable progress.

- The priority areas for research identified included: Aboriginal health, health systems and policy research, and a focus on specific diseases or health dimensions (e.g. lifestyles).

- Several factors combine to position SK with an opportunity to excel in Aboriginal health research. These include: the creation of the First Nations University of Canada; some existing partnerships (e.g. Nursing Education Program) and strong First Nations organizations.

- There were several dimensions identified that respondents felt would strengthen health research in SK. These included:

  - Taking a strategic focus. Setting a direction and pursuing it.
  - More funding to support more human capacity.
  - New organizational structures to facilitate knowledge sharing and collaborative interdisciplinary research.
  - Administrative and technical support for research programs.
  - Supportive policies and attitudes within health regions.
  - Enhanced relationships among individuals and organizations involved in research.

- Several areas of existing strength were identified. Most notable were the Canadian Light Source (which is in reality more a promise of potential) and health services research (based in large part on HSURC history).

- The sense of 'history and place' within SK with respect to health provides strong motivation to innovate in aspects of health reform unique to SK.

- In order to ensure that research improves health and health care in SK, the following directions were recommended:

  - Pay attention to what type of research is done.
  - Enhance communication and relationships among the players in the system and consciously attend to using existing knowledge.
  - Ensure the roles of various organizations are clear and known to all. Collaborative planning would be helpful.

- Responses were received from 159 individuals. Those responding included researchers (46%); managers (24%); service providers (13%) and others (students, board members, not specified) (16%).

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HEALTH RESEARCH IN SASKATCHEWAN: CHARTING A PATH

Survey Results

A survey of Saskatchewan stakeholders was done between September 17 and October 15 2003 to solicit opinions about key dimensions relating to a health research strategy for the province. One hundred and fifty seven individuals participated in the survey which was part of a process sponsored by the Saskatchewan Health Research Foundation to seek input from which to develop advice for the Minister of Health regarding a provincial health research strategy. This is the technical report providing detailed information about the responses to that survey.

PURPOSE

To seek advice for a provincial health research strategy in Saskatchewan by asking for input from interested Saskatchewan residents.

OBJECTIVES

To develop a brief background document describing the current situation to serve as a stimulant when requesting feedback.

To provide the opportunity for a wide range of perspectives to be heard through responses to specific questions regarding health research in Saskatchewan.

To summarize the feedback from respondents in order to assist the Saskatchewan Health Research Foundation in its process of developing advice for the Minister of Health.

METHODS

Survey: Web, Mail and Personal Distribution

Insightrix, an experienced online research provider, was contracted to assist with and host the Web-based survey. They were provided with a copy of a background document written specifically for the purpose of providing brief information to respondents and to provide a frame of reference for the questions being asked. The document entitled *The Future of Health Research in Saskatchewan: We need your input!* is available on the SHRF Web site (www.shrf.ca). In consultation with SHRF and On Management Ltd. they developed a Web site; this site included a copy of the report and the survey which was separated out from the report. SHRF also made a link from their Web site to the Insightrix site.

Thus there were five ways that people could access the document and survey:

- E-mail invitation;
- mailed invitation;
- SHRF Web site, either from browsing through the site or due to another individual's suggestion to participate in the survey;
- browsing through Insightrix's Web site; and
- distribution by SHRF staff and Board.

With regard to the first two, individuals were identified by SHRF and personally invited to take part in the Web or mail survey. These people included individuals from universities, regional health authorities, government, charitable agencies, the Health Quality Council, Aboriginal groups and the private sector.

For the e-mail group, a message was sent on September 17th giving them some background information and informing them of the upcoming e-mail with its link to the document and survey. E-mail messages were sent to individuals at universities (304); regional health authorities (102); government (37); charitable agencies (14); Health Quality Council (14); and to others who are Aboriginal (7); belong to the private sector (6); and other miscellaneous groups (59).

On September 19th, (two days after the pre-notification), the invitation to participate in the survey was e-mailed with a link to the Insightrix Web site. If individuals did not go into this link, they were sent a reminder e-mail on Sept 29th, 2003 and again on October 6th, 2003. The survey was closed on Oct 15th, 2003.

The mailed group were sent packages September 17th, 2003. Surveys were mailed to individuals from the following groups: regional health authority (27); Aboriginals (12); charitable agencies (9); private sector (5) and 5 miscellaneous others. The packages included a covering letter explaining the contents and the document, *The Future of Health Research in Saskatchewan: We need your input*!, which includes the survey at the back. They could choose to respond either online or by returning the hard copy. Any hard copies returned were entered manually by Insightrix into the database; there were 15 such surveys entered this way.

The document with the survey included was also distributed personally in the following venues and to the following people:

- 50 at the SHRF Awards reception.
- 50 to Board members for distribution to Aboriginal organizations (for IPHRC, FNUC, etc.).
- 25 at the Minister's Forum (RHA chairs).
- 15 at the Health Sciences Deans meeting (University of Saskatchewan).
- 25 at the Department Heads meeting.
- 40 to Health Evaluation Network members.

THE SURVEY PROCESS

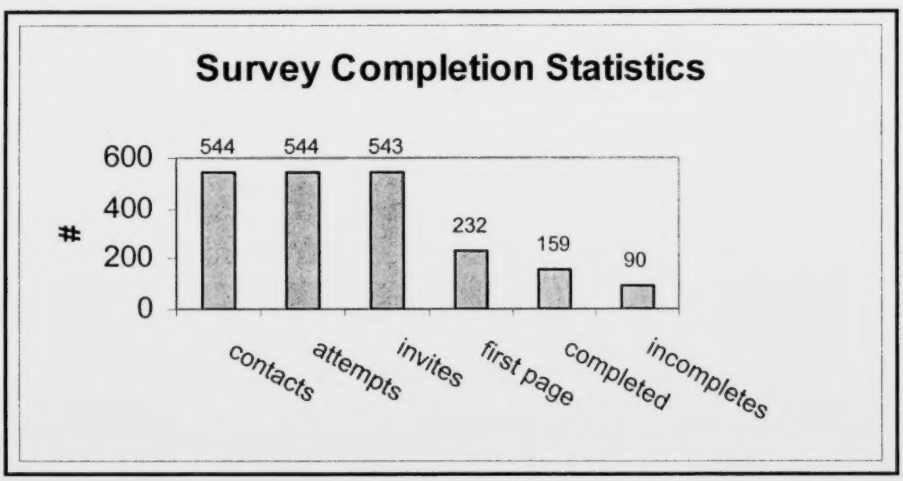
Respondents Overall Contact with the Survey

The pre-notification e-mail was sent on September 17th, 2003 to those individuals identified by SHRF and the invitation to participate was sent September 19th, 2003. Out of a potential 544 contacts, a total of 159 respondents completed the survey and a further 90 started but did not finish the survey. A further 232 visited only the first page of the survey (Figure 1).

The reminder e-mails were sent September 29th and October 6th, 2003. These reminder e-mails were important to the process as can be seen from the peaks in Figure 2 which occurred after they were sent. The survey closed October 15th, 2003

As an indicator of how far respondents progressed through the survey, we looked at the last question answered by each person (whether or not they had responded to all prior questions). For details, see Figure 3.

Figure 1: Survey Completion Statistics



Contacts: Number of people in contact list.
Attempts: Number of people we have attempted to contact in some way and who have been assigned a contact status.
Invites: Number of e-mail invitations sent.
First Page: Number of people who viewed first page of survey.
Completed: Number of respondents who answered all relevant survey questions.
Incomplete: Number of respondents who started survey, have not completed the survey, and have NOT requested a page for 15 minutes.

Figure 2: Survey Responses Over Time

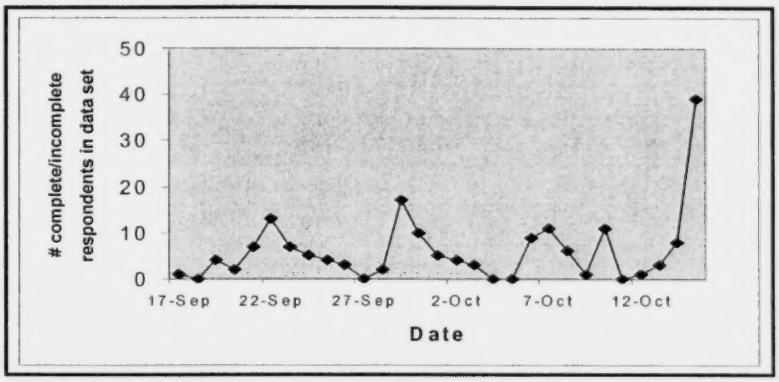
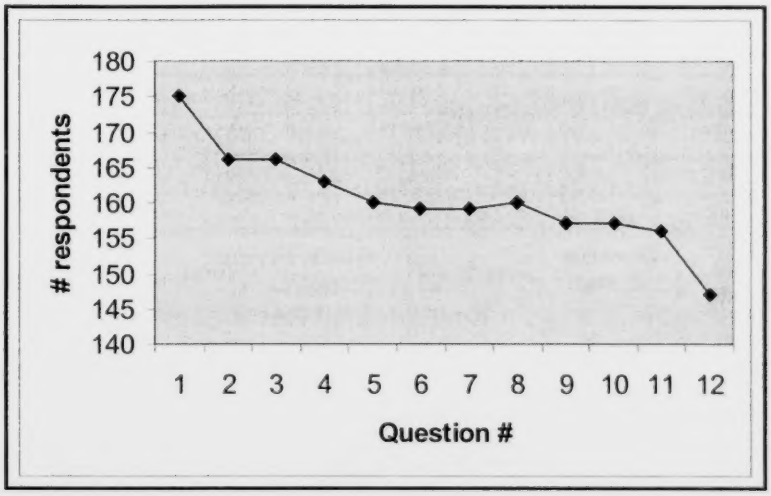


Figure 3: Question Response Rate



DESCRIPTION OF RESPONDENTS

The respondents were predominantly from the Saskatoon area (67.8%; Table 1), were researchers (45.9%; Table 2) and worked in a university setting (51.6%; Table 3). The age distribution was as follows: 14 (9.0%) were < 34 years old, 75 (48.1%) were 35-49 years old, 64 (41.0%) were 50-64 years old and 3 (1.9%) were > 65 years old (Table 4).

Most of the researchers and health service providers worked in a university setting (73.6% and 66.7% respectively) (Table 2) and were 35-49 years old (54.9% and 57.1% respectively; Table 4). The managers/administrators were spread between the regional health authority

(28.9%), charitable agencies (18.4%) and government (21.1%; Table 2). Most of the researchers (83.6%) and health service providers (90.0%) were from the Saskatoon Health Region (Table 5); whereas the split was more even for managers/administrators (36.1% from Saskatoon and 44.4% from Regina Qu'Appelle).

The majority of individuals in a university setting (86.7%) and in a Regional Health Authority (56.5%) were from Saskatoon (Table 6). The picture was different for charitable agencies (45.5% Saskatoon and 54.5% Regina) and government (41.2% Saskatoon and 52.9% Regina). There were no respondents in the private sector who came from the Regina region.

Table 1: Place of Residence

CITY	TOTAL #	% OF RESPONSES
Saskatoon	99	67.8
Regina	33	22.6
Other	14	9.6
Total	146	100

Table 2: Occupations in Different Work Settings

	WORK SETTING N (%)[1]						
OCCUPATION	University	Regional Health Authority	Charitable Agency	Government	Private Sector	Other	Total[2]
Researcher	53 (73.6)	4 (5.6)	2 (2.8)	6 (8.3)	1 (1.4)	6 (8.3)	72 (45.9)
Manager / Administrator	5 (13.2)	11(28.9)	7 (18.4)	8 (21.1)	1 (2.6)	6 (15.8)	38 (24.2)
Health Service Provider	14 (66.7)	5 (23.8)	0	1 (4.8)	1 (4.8)	0	21 (13.4)
Other	9 (34.6)	5 (19.2)	3 (11.5)	2 (7.7)	1 (3.8)	6 (23.1)	26 (16.6)
Total	81	25	12	17	4	18	157

[1] Percentage of each occupation which works in that setting.
[2] Percentage of respondents in that position.

Table 3: Work Setting

WORK SETTING	TOTAL #	% OF RESPONSES
University	81	51.6
Regional Health Authority	25	15.9
Government	17	10.8
Charitable Agency	12	7.6
Private Sector	4	2.5
Other	18	11.5
Total	157	100

Table 4: Occupations by Age Group

	AGE N (%)[3]				
OCCUPATION	**≤ 34 years**	**35-49 years**	**50-64 years**	**≥ 65 years**	**Total**
Researcher	9 (12.7)	39 (54.9)	23 (32.4)	0	71
Manager/Administrator	0	15 (39.5)	22 (57.9)	1 (2.6)	38
Health Service Provider	2 (9.5)	12 (57.1)	7 (33.3)	0	21
Other	3 (11.5)	9 (34.6)	12 (46.2)	2 (7.7)	26
Total[4]	14 (9.0%)	75 (48.1%)	64 (41.0%)	3 (1.9%)	156

Table 5: Occupation by Regional Health Authority

	HEALTH REGION N (%)[5]			
OCCUPATION	**Saskatoon**	**Regina Qu'Appelle**	**Other**	**Total**
Researcher	56 (83.6)	7 (10.4)	4[6] (6.0)	67
Manager/Administrator	13 (36.1)	16 (44.4)	7[7] (19.4)	36
Health Service Provider	18 (90.0)	1 (5.0)	1[8] (5.0)	20
Other	12 (52.2)	9 (39.1)	2[9] (8.7)	23
Total	99	33	14	146

[3] Percentage of each occupation in that age group.
[4] Percentage in each age group.
[5] Percentage of each occupation in each health region; missing information included.
[6] "Other" health region: 3 from Prince Albert, Parkland; 1 from Heartland.
[7] "Other" health region: 1 from each of the following – Sunrise; Prince Albert, Parkland; Prairie North; Mamawetan, Churchill River; Kelsey Trail; Keewatin Yatthé; Five Hills.
[8] "Other" health region: 1 from Prince Albert, Parkland.
[9] "Other" health region: 1 from Sunrise; 1 from Heartland.

Table 6: Work Setting by Regional Health Authority

	AGE N (%)[10]			
WORK SETTING	**Saskatoon**	**Regina Qu'Appelle**	**Other**	**Total**
University	65 (86.7)	8 (10.7)	2[11] (2.7)	75
Regional Health Authority	13 (56.5)	4 (17.4)	6[12] (26.1)	23
Charitable Agency	5 (45.5)	6 (54.5)	0	11
Government	7 (41.2)	9 (52.9)	1[13] (5.9)	17
Private Sector	2 (50.0)	0	2[14] (50.0)	4
Other	7 (43.8)	6 (37.5)	3[15] (18.8)	16
Total	99	33	14	146

INPUT RECEIVED

Priority Areas for Research

Question 1: In which areas should Saskatchewan researchers do more in the coming years, and why?

This was an open-ended question, and it is important to consider that when examining the responses. Table 7 provides a summary of which topics were mentioned most frequently by the various categories of respondents. The table was developed as a general guide to the range of responses and the variation in responses within a group and between the groups. Not every topic mentioned appears in this table. Specific areas only mentioned by one respondent across the board were not included. For example, one service provider mentioned research involving immigrants and refugees as an important priority area.

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[10] Percentage of each work setting in each health region.
[11] "Other" health region: 2 from Prince Albert, Parkland.
[12] "Other" health region: 1 from each of Sunrise; Prince Albert, Parkland; Mamawetan, Churchill River; Kelsey Trail; Keewatin Yatthé; Heartland.
[13] "Other" health region: 1 from Five Hills.
[14] "Other" health region: 1 from each of Sunrise and Prince Albert, Parkland.
[15] "Other" health region: 1 from each of Prince Albert, Parkland; Prairie North; and Heartland.

Target Groups of Interest – Focus on Aboriginals

Across the four groups of respondents, identifying a specific target group was the most commonly used approach, and on this dimension, Aboriginals were far and away the most commonly mentioned group. After that, the elderly population (sometimes encompassed in a discussion of 'healthy aging') was the second most frequently mentioned group. Rural residents and children were also mentioned.

The suggestion that research relevant to the Aboriginal community in SK is important was well supported by rationale and comments. The facts that the Aboriginal population is increasing, that it is growing as a proportion of SK population, that they experience a disproportionate burden of illness, and that the Aboriginal population in SK is a bigger proportion of the provincial population than any other province were all mentioned. Some suggested that SK was uniquely placed to do something about the issue, and that a strong and productive Aboriginal sector is critical to SK's future. Many mentioned specific diseases or conditions that are particularly problematic in this population: diabetes, injuries, smoking, suicide and addictions.

Types of Research – Focus on Health Systems and Policy Research

Although this was a very common theme among respondents and across groups, there were no specific topics that dominated. Themes which emerged related to utilization (e.g. impact of healthy living and other programs on utilization), evaluating efficiency effectiveness and quality, staffing mix and models, service delivery models (e.g. primary care) and resource allocation.

Broad Based Interest in Varied Diseases and Health Focuses

There were no particular disease or health focuses which dominated the responses. The two topics which were mentioned somewhat more frequently were diabetes and lifestyle and health (including such aspects as obesity, chronic disease prevention). Across the spectrum though, many conditions were mentioned by a few individuals: environmental health, mental health, multiple sclerosis, cancer, heart disease, agricultural medicine. Many respondents who mentioned Aboriginals as a particular focus mentioned specific diseases in that context (diabetes, injuries, etc).

Table 7: Priority Areas for Research[16]

DIMENSION	RESEARCHERS N = 72	MANAGERS N=38	SERVICE PROVIDERS N = 21	OTHERS* N = 26
CIHR PILLAR				
Basic	++		+	+
Clinical	+	+		
Health Systems and Policy	+++	+++	+	++
Population Health	++	+		
Disease or Focus				
Lifestyles and Health	+		+	+++
Environmental Health and Safety	+			
Mental Health	+			
Multiple Sclerosis				+
Diabetes	+			++
Cancer			++	+
Cardiac				+
Chronic Diseases		+		
Agricultural Medicine and Health				
FAS			+	
Target Group				
Aboriginal	+++	+++	++	+++
Rural	+	+		+
Health Aging	+	+		++
Child Health			+	+
Miscellaneous				
Knowledge Translation	+	+		

+ Notable support ++ Stronger support +++ Strongest support

* Other category included: three students, five Board members, and 18 individuals who identified themselves as 'other'. This latter group included such descriptions as 'academic administrator, interested member of public, etc.

[16] The assessments of support that are provided are of course, not quantitative, but rather reflect in a general way the magnitude of support for a specific concept WITHIN the groups. As the groups differed significantly in size, the +s were assigned within groups reflecting the relative strength of support within the groups and then considered across groups.

Mechanisms Missing in Saskatchewan

Question 2: What structures or processes are missing that are needed to support strong and effective health research in Saskatchewan? How could this make a difference?

There were wide ranging responses to this question, and with a couple of notable exceptions, the advice did not cluster strongly into specific advice within each of the themes discussed. The themes which emerged included: taking a strategic focus, need for more funding, structures, policies and programs, infrastructure, a supportive environment, and collaboration or relationships oriented comments. Following is a brief comment on each of the themes.

Taking a Strategic Focus

Several respondents stated that clear goals and a strategy for achieving them is needed. There was a sense that we're 'spread too thin', and that a longer term, strategic approach is needed and that funds should be channeled to areas of particular need. That is not to say that there was no mention of short term objectives and focus needed; but that these mechanisms should be designed so that they supported long term objectives (as opposed to, for example, funding things which 'looked good in the short run', but that did not strategically build capacity for the future).

Need for More Funding

Although 'more money' did not directly respond to the question asked, clearly it is a topic on respondents' minds. Some said funding was more important than structures, but on balance, there was a large number of suggestions for structures and processes. Suggestions were made about where more money should come from (e.g. a policy that one percent of health expenditures should go to research; establishment of a trust fund or endowment similar to other provinces; a provincial agency that provided ongoing support to active researchers; and the establishment of more sources of research funds in the province, i.e. not limited to one source).

When respondents referred to the reasons why more funding would make a difference, the rationale almost exclusively referred to was enhanced human capacity. With the exception of young investigators and to a lesser degree, research personnel for health authorities, many areas across the spectrum of personnel were suggested. One or two people, for example, mentioned longer periods of support for individual researchers, need for 10-20 research chairs, more clinician scientists, more mid to senior level scientists, more Aboriginal students, etc. The need for younger investigators (including PhD fellowships) was the most strongly voiced area where enhanced human capacity was needed, and several respondents mentioned that regional health authorities needed research, knowledge transfer, or policy development personnel.

Structures, Policies and Programs

Again, with regard to this theme, there were two topics that came to the forefront: need for specific organizational structures, and a mechanism for enabling release time to enable researchers to do research.

The time issue was far and away the most commonly mentioned topic in response to this question (although one topic in the 'Relationship and Collaboration' theme came close). The two types of researchers most often mentioned included those with clinical responsibilities (presumably physicians with dual clinical and academic roles) and individuals totally in the service deliver domain, e.g. practitioners and managers. Release time is seen as an important incentive to participate. Some clearly felt very strongly as reflected in the statement 'we have the brains; the brains need the time!'

Two types of structures were mentioned by several; one type oriented toward sharing and dissemination of research information, and other related to creating centre of excellence type centres to enhance cross disciplinary work. One quite specific example of a centre was one related to studies in health systems and policy, that the writer suggested be placed in a non-traditional faculty (e.g. sociology or political science) but with close links to HQC, SHPERU and both universities including several different faculties. This centre was envisioned to involve the public in a 'think tank' mode, and to have special programs for applied researchers and decision makers. The current lack of a cross disciplinary policy unit was stated as a problem. The proposed knowledge sharing centre was variously described as a 'clearinghouse' or a centre for the collection, analysis and dissemination of research results. The purposes envisioned for such a centre varied among respondents, from highlighting SK research (presumably to a wide audience) to one reflecting close collaboration among government, community and universities.

Infrastructure

Several comments referred to the planned building at the University of Saskatchewan, with positive comments reflecting hopes for more core facilities (and technical staff to support them), commercialization space, a safe operating environment and concomitant movement to more research group structures. A couple of comments, however, reflected fear that the ambitious building plans would consume all available infrastructure money.

Other things mentioned by individuals included adequate investment in teaching infrastructure, establishment of community research ethics processes in Aboriginal communities, and communication systems to ensure sharing and impact of research to all interested communities (researchers, professionals, public).

Supportive Environment

Aspects of the environment which emerged as important referred to two different dimensions of the environment. The first was the immediate environment of the researcher and referred to

things directly instrumental in the accomplishment of research. The other group of factors referred to things in the policy and social environment that affected the ability or researchers to do their job effectively. Researchers expressed a need for technical and administrative support (and sometimes professional). There is a sense of researchers spending too much time completing reports and doing other bureaucratic tasks. Professional assistance, vis a vis statisticians and writers would also facilitate the research process.

With respect to the more distant environment, the single topic mentioned most often reflected the opinion that health regions are part of the solution to more research, and there was a range of aspects mentioned that would facilitate research. Regional policies related to standardized fee schedules for services rendered during clinical trials (perhaps a single overhead charge) would make life easier. Nurses sometimes are unable or unwilling to assist with clinical research. There was a fairly strong sense that health regions are not supportive of research, and that it would help if regional leadership were supportive. A couple of respondents mentioned that it would be helpful if SK Health has explicit expectations for regions to be involved in research (and allocated resources and attention to achieve this end).

Another environmental aspect that could be affected by SK Health is improved data access policies, mentioned by several. A more supportive public (perhaps enhanced through more media attention) was also seen to be a factor which would nurture research accomplishments.

Relationships and Collaboration

Within this question overall, the most 'dense' comments were on this topic. Several respondents mentioned each of several axis upon which better collaboration and more productive relationships were needed: between government and research; among researchers themselves; researchers and those being studied; and between the health and education sectors (particularly at post secondary level); and finally, between researchers and personnel in health authorities and community groups. The latter category garnered very strong comments which covered many reasons why better collaboration was required: to develop research questions, to provide staff relief funds to enable research, to enhance clinical research, to enhance uptake of research, to foster better understanding of respective roles, and generally to work towards improvement of conditions that determine health. More effective relationships between health system personnel and researchers was a predominant wish.

Less Would be Better

Question 3: Are there things being done now in the health research arena in Saskatchewan that could be discontinued?

Compared to other questions, respondents had very little to say in response to this question, and the most common answer was 'No'. However, there were three themes that seemed to emerge from the responses. First was one related to the need to focus i.e. resources were being spread too thinly (and some research was being duplicated); the second theme

reflected a certain level of dissatisfaction with spending a great deal of money on new buildings, with comments reflecting a belief that investment in people was more important; and the third theme referred to dissatisfaction when money was given out in the province that wasn't subject to rigorous peer review (in the case of direct funding; and perhaps establishment grants that wouldn't compete favorably in national competitions).

As in other categories, there were comments reflecting 'too much research of a certain type'; however there was no consensus of these comments. Comments referred to too much basic research, too much clinical research (because of links to national studies), too much acute care (and not enough prevention/ community health), less psychosocial and cultural, etc.

Strengths and Opportunities

Question 4: What strengths and opportunities are important to focus on when planning the future of health research in Saskatchewan?

Strengths were identified primarily along two dimensions: one where respondents identified specific research topics and those that related more generally to some aspect of the Saskatchewan milieu. Table 8 provides a sense of what different groups felt about the topic. The one target group where opportunities were identified was overwhelmingly in the area of Aboriginal health. Respondents of course, did not always explicitly label their responses as an 'opportunity' or a 'strength', but on average comments reflected that those topics were perceived as strengths that should be built upon; and in the area of Aboriginal health, the comments more often reflected an opportunity. The same could be said of the Canadian Light Source. Although this is often grouped with other areas that are further along in development, this would have to be labeled an 'opportunity' as well, as it is in very early stages of development.

Specific Areas of Research Strength

Comments in this category reflected two groups of topics: those related to substantive content areas for research, and those that referred to some aspect of the policy and organizational environment within which research takes place. There were a large number of general comments such as 'build on existing strengths, we're a small province' and 'we have good researchers, we need to keep them'. However, some did express specific opinions about areas of strength, and in general groups other than researchers named specific strengths. Two topics were mentioned often: the Canadian Light Source and health systems research (with reference to prior HSURC work, and the potential in SK to learn from health system reform). Structural science was the other area mentioned a couple of times. Several topics were mentioned once (e.g. veterinary medicine, neuroscience, cancer, cardiovascular, proteomics and genomics, mental health, agriculture). Many referred to the strengths of 'the researchers' and 'the universities' generally, but without specifics.

The strengths and opportunities related to the policy and organizational environment included a common sense that having five health related colleges at one university, the presence of the Academic Health Sciences Network, and prior work by HSURC provided specific strengths and a firm foundation for moving forward. One commented 'We are the proving ground for dispersed population health care delivery…. innovation. We have a province wide Academic Health Sciences Network. No other province has that'.

The Saskatchewan Advantage

Interestingly, there were almost as many comments relating to the general SK context as there were specific research topics. Most of these comments referred to aspects of the SK population and history of health policy and reform in the province. The small, relatively stable population, referred to by many, caused one person (influenced by the history of health innovation, also a common theme) to describe SK as a 'health policy incubator, and we need to retain our strength there'. The fact that there was a small number of researchers was also seen as a strength by several, in that should facilitate sharing of knowledge and collaboration.

Collaboration and Focus

The dimensions for collaboration mentioned as a strength were varied, but included university community relations, as well as relationships among researchers and the three universities (Saskatchewan, Regina, First Nations). Again, the relatively small communities involved were deemed to present an advantage. Although comments reflected that individuals felt that prior collaboration was an area of strength, there is also opportunity to do more.

The Opportunity for Aboriginal Health

There were several specific aspects mentioned with respect to the opportunity afforded in Aboriginal health. There is perceived strength within the Aboriginal communities themselves (facilitative governance, strong First Nations organizations) and there is evidence of existing partnerships already (e.g. First Nations University of Canada with Nursing Education Program). There were several specific conditions mentioned (e.g. diabetes, obesity, cardiovascular) but also a sense that working in this community provided a real opportunity to move beyond the biomedical focus to a true determinants of health perspective. There were two respondents who voiced an opinion that SK could leverage excellence in rural and Aboriginal health into international opportunities.

Table 8: Strengths and Opportunities

Dimension	RESEARCHERS N = 72	MANAGERS N = 38	SERVICE PROVIDERS N = 21	OTHERS* N = 26
Strengths and Opportunities				
Collaborative approach and potential	+	+		
Unique SK aspects	+++	+	+	+
Databases		+	+	
Planning and focused approach	+			
Specific research aspects	+++	++	+	+++
Target Groups Where Opportunities Cluster				
Aboriginal	++	+	+	+
Youth				+
Elderly				

+ Notable support ++ Stronger support +++ Strongest support

* Other category included three students, five Board members, and 18 individuals who identified themselves as 'other'. This latter group included such descriptions as 'academic administrator, interested member of public, etc.

Ensuring Research Improves Health and Health Care

Question 5: What can be done to ensure that research knowledge helps improve health care and health status in Saskatchewan?

Focus on the Front End

The primary underlying message here is related to the fact that many people feel you influence ultimate impact by 'shaping' the nature of research in the first place, and the manner in which it is done. The most predominant theme emerging was that of nurturing participation of a wide range of individuals in research (including a predominant focus, again, of allowing clinicians release time for research, but there were also several mentions of ensuring the exposure of undergraduate students to research). This includes such things as ensuring a clear research agenda, ensuring that you are funding relevant research that has potential to 'make a

difference', hiring enough of the right kind of people (e.g. Aboriginal researchers, doctors and nurses); focusing on applied research, and making SK an attractive place for researchers and clinicians.

Linkages and Knowledge Transfer

Enhanced communication, relationships and attention to an overall strategy to ensure effective use of research knowledge were the three strong messages here. Two way communication involving the public, care providers through a variety of mechanisms (newspapers, conferences, person to person meetings) were mentioned. Interactive relationships were often inherent in the communication topics, but were a central theme in their own right. The types of relationships that respondents feel are important have been mentioned before, and include basic researchers working closely with clinical researchers, academic researchers working with health regions (including care deliverers, administrators). The term 'translational research' was mentioned by several. The importance of two way relationships was mentioned by many.

There was a myriad of comments that referred to some sort of specific activities or strategies focused specifically on knowledge transfer (as opposed to doing specific types of research in particular ways). These included the development of knowledge transfer networks, research transfer projects, more research on effective strategies for knowledge transfer, ensuring all research reports have a section addressing implications and implementation, more capacity building on how research can improve health outcomes, use research knowledge to help develop programs more conducive to First Nations, and dissemination of best practice knowledge. In general, there was a high level of engagement on the topic of transfer mechanisms and strategies. Lack of appreciation by a few for the topic of knowledge transfer was exemplified by the statement "Knowledge transfer is probably an issue but it seems to me that most research topics have limited applicability in SK… only affects a few".

Ensure Organizational Roles are Clear

Perhaps not surprisingly, given the relative 'newness' of organizational entities in SK, there is some confusion about 'who is doing what' with respect to knowledge transfer. Several mentioned (or pondered) the potential role of the Health Quality Council in knowledge transfer, and the Academic Health Sciences Network was also mentioned. Suggestions were made about what the potential role of these organizations could include (e.g. establish priorities, serve as a clearinghouse). A couple of respondents mentioned the need for some sort of coalition or structure to help.

System Levers – Incentives and Accountability

Positive recognition for engaging in research or research use that has measurable outcomes were mentioned by several, although few specifics were given about what that recognition might include. A policy approach of requiring health boards to show increases in key measures (e.g. quality, effectiveness of care, quality of work life) in order to receive grants may be one mechanism. Monitoring and reporting on the overall process of research was mentioned.

Important Directions for Action

Question 6: What are the two most important actions that should be taken in Saskatchewan to strengthen health research here?

More People, More Money

There was remarkable congruity across the various occupational groups. The two predominant responses were to contribute more money into the research systems and to recruit and retain researchers. The recruitment and retention of more researchers was the most commonly stated action in all four groups, followed closely by the contribution of more funds to research. If one considered all the specific uses to which additional funds could be used (in addition to a general 'allocate more money') then researchers mentioned additional funds more than any other topic. In addition to a general 'more funding', the research group also spoke very strongly about increased local funding, and also mentioned a number of specific uses to which more funding could be put e.g., operating grants, increased strategic grants, innovative research. Local funding was seen to be important partly because it sent a serious message to other parts of Canada that SK is going to 'play the game and be competitive'.

Knowledge Translation, Collaboration and a Supportive Environment

Sharing of information and knowledge was a strong second level theme emerging from the responses. As in other questions, responses here to some degree reflected a general need to 'know more about what was going on' as a pre-requisite to actually using the information. This theme was quite related to the one on collaboration, where relationships among researchers, and among researchers and other groups(policy makers and providers) were mentioned. There was a sense that increased cohesiveness would make SK more competitive for research dollars. Notable not because of the number of times it was mentioned, but rather because of its specificity, as the suggestion that creating a 'research friendly' environment within the SK health care system would be an important thing to achieve. Comments like 'create a research friendly environment within SK Health', 'clinical sites willing to work with researchers', and 'a change in attitude of government and others about the value of research activities' illustrate this thought.

The 'Other' Category of Respondents

Because of small numbers of students (N = 3) and Board members (N = 5) responding, these groups were combined and their responses were grouped with those respondents who chose to identify themselves as 'other' and with those who did not provide any information about the category to which they might belong N = 18). As the qualitative analysis unfolded, it appeared as though this group of 'others' and 'unspecified' were making some fairly definitive statements. (Students and Board members tended to respond very briefly, and their comments were not the ones expressing strong and lengthy opinions). It is difficult to interpret what this means, but the sense that their opinions 'clustered' more strongly than some of the other groups was noted in some questions.

Measuring Success in Health Research

Question 8: Suggested indicators for measuring health research success.

In an era of enhanced expectations for accountability in all sectors, it is important to consider which indicators could be monitored to provide some sense of progress in health research. Table 9 provides information about how individuals felt about specific options that were presented to them.

Table 9: Measuring Success in Health Research[17]

(using average weighted totals)	OCCUPATION				
	Researcher (N=72)[18]	Manager / Administrator (N=38)	Health Service Provider (N=21)	Other (N=26)	All (N=157)
Research improves health service delivery in the province.	4.2	4.4	4.5	4.2	4.3
There are more young people working and studying in health fields in the province.	4.2	4.2	4.4	4.1	4.2
Health research done around the world is used to benefit Saskatchewan residents.	4.0	4.2	3.9	3.8	4.0
People in Saskatchewan live longer and healthier lives because of health research done in the province.	3.9	4.1	4.0	3.9	3.9
Saskatchewan attracts researchers from other parts of Canada and the world to work here.	4.3	4.1	4.5	4.2	4.3
There are adequate numbers of highly skilled health professionals working in Saskatchewan.	4.3	4.4	4.6	4.6	4.4
Saskatchewan has strong linkages with neighbouring western provinces for health research and development.	4.0	3.9	3.8	4.2	4.0
The province's share of national research dollars is at least the same as its share of the Canadian population – just over three percent.	4.5	4.4	4.5	4.5	4.5
Saskatchewan has companies that are successful in commercializing our health research discoveries.	3.6	3.9	3.6	3.8	3.7
Other.[19]	4.5	4.6	4.0	4.8	4.5

[17] Top options are shaded for each occupation except for "other" as there were so few #s.
[18] "N" indicates the maximum number possible in each of the success measures; however, some respondents did not answer or stated "no opinion".
[19] The # of respondents who answered "other" is generally much lower than for the other options.

In the survey the question was asked as to how Saskatchewan will know whether it has been successful with regard to health research flourishing and making important contributions to life in the province. Some possible indicators for success were listed and the respondents were asked to rate how important they thought each indicator is for measuring success in health research.

It can be seen that all indicators were strongly supported. Both the province's share of national research dollars and the number of highly skilled health professionals are important indicators across occupation groups. Overall, companies successful in commercializing health research discoveries are considered to be a less important indicator for success. Researchers ranked research improving health service delivery lower than the other groups and managers ranked attracting researchers lower than the other groups.

CLOSING COMMENTS

The results of this survey represent one important contribution to a consultation process where SHRF is seeking advice with respect to a health research strategy for Saskatchewan.

Respondents to this survey in many ways mirror the profile of those involved in research in SK. The majority of respondents are researchers, and are located in Saskatoon.

Highlights of the survey are provided at the beginning of the report, and provide important information about what key stakeholders feel are important directions for the province.

While Aboriginal health has been identified as a key area of focus, the recommended mechanisms for the most part do not address those which specifically could assist with addressing this issue, so further thought may be required on that dimension.

The human resource component of the research system is very important. The focus is on both enticing young people into the research area, but also enabling people who are on site now. Clinical research (and release time to enable that) is an important theme.

Overall there is a theme of building on existing strength in some key areas, but with a focus to the future overall.

There is a sense that it is important for the provincial government to make a statement about research. This would be important in encouraging excitement and commitment and would also make an important statement to the rest of the country.

The results from this survey will be considered in combination with input from Roundtable Discussions and other sources to develop an overall report capturing advice related to a health research strategy for the province.

APPENDIX 2

HEALTH RESEARCH IN SASKATCHEWAN:

RESULTS FROM ROUNDTABLE DISCUSSIONS WITH STAKEHOLDERS

NOVEMBER 2003

Document Prepared as Part of the SHRF Consultation Process to Consider Input Related to Health Research in Saskatchewan

HEALTH RESEARCH IN SASKATCHEWAN: CHARTING A PATH

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Health Research in Saskatchewan: Charting a Path

Results of Roundtable Discussions

Facilitated roundtable discussions were held as the final component of a province wide consultation on health research. This consultation process was sponsored by the Saskatchewan Health Research Foundation to seek input to the development of advice for the Minister of Health related to a provincial health research strategy. Roundtable discussions involving a total of approximately 90 individuals were held in Regina (two sessions), Saskatoon (three sessions) and Prince Albert (one session) between November 17th and 21st, 2003. The participants were invited to participate and were from universities, government, community based organizations and private sector organizations and had a wide range of interests in the health research topic. This is the technical report providing detailed information about the responses to that survey.

The consultation involved two prior steps: interviews with key stakeholders in spring of 2003 and an internet based survey of all interested residents between September 17th and October 15th.

PURPOSE

To seek input from stakeholders on key topics relevant to a provincial health research strategy in Saskatchewan.

THE TOPICS OF INTEREST

The topics were identified as a result of analysis of the results of a survey involving input from 157 Saskatchewan residents which was done one month prior and was also influenced by the Board Steering Committee. The topics presented for discussion at the Roundtables included:

- Getting the 'balance' right among the various areas of research.
- Knowledge translation (Making sure that health research makes a difference in SK).
- Capacity (Building capacity to do and use research).
- Partnerships (Working together to increase the impact of health research).

METHODS

Participants were invited by written invitation which included a copy of a background document written specifically for the purpose of providing brief information to provincial stakeholders and to solicit their response to the internet survey completed between and to provide a frame of

reference for the questions being asked. The document entitled The Future of Health Research in Saskatchewan: We need your input! is available on the SHRF Web site (www.shrf.ca).

The sessions were three hours long and were facilitated by Judy Birdsell. June Bold (Chief Executive Officer) Lori Ebbesen (Program and Evaluation Officer) from SHRF were present and listened to the discussions. Guiding questions were developed in conjunction with the Steering Committee to serve as a starting point to guide discussions in each of the four key topic areas. These questioning guides are included as a note at the end of the report.

WHAT WE HEARD – OVERALL MESSAGES

Research is valued by health stakeholders in SK.
Participants engaged in an animated fashion on the topic of the importance of health research to the health system in the province. Perceived ownership is broad, and research is seen as an important (perhaps the only) mechanism in improving health outcomes.

SHRF should focus its resources.
The province is too small and resources too small to try to 'be all things to all people'. The general direction recommended is to focus on areas of strategic importance to SK, and on balance, this probably means a predominant focus on applied research (population health research and health services and policy research). The notable exception to this is the Canadian Light Source which is seen generally as an area of strategic importance to the future of SK research. There is some felt urgency to act; people are tired of planning and giving input.

Aboriginal health is the most common strategic need by far.
There is a recognition that this is important not only in terms of health outcomes and health system costs, but also is fundamental to the economic well being of SK in the future.

A solid foundation of activity is needed to support strategic progress.
Participants spoke of the importance of a basic 'bubbling' foundation of research activity which enabled focused and aggressive research in strategically important areas. The other benefits of this foundation are important as well, especially the contribution to a base of solid education of future health professionals and to serve as a key component of recruitment of high quality personnel to the province.

Money available to support research in SK is inadequate.
Groups acknowledged that the $6 million dollars currently available in provincial funds to support research is seriously inadequate. Targets of one percent of health budget or $20 million were frequently mentioned as amounts that would signal serious intent on the part of the province to engage in the research enterprise to improve health outcomes in SK. Some questioned the need for a provincial strategy at all unless there was a serious infusion of resources. Most groups felt that SK should earn its proportional share of national research dollars (just over three percent, based on population).

THE 'BALANCE' BETWEEN PILLARS

Using the CIHR 'pillars' as a way to categorize or describe the various categories in which research could be funded did not resonate with ANY group consulted. Participants could not be enticed to discuss allocation among pillars in any substantive way. They were very ready to offer suggestions about what 'qualities' or 'attributes' that research funded should have. The most common themes which emerged included:

- Identify areas of strategic importance to the province, and focus there.
- Build on areas of strength and potential in SK.
- Identify niche areas and build strength there (including building global reputation for SK research in that area far beyond SK borders).
- Identify areas of need, and put resources there, regardless of the type of research needed to address the need.
- Some liked the distinction between curiosity driven and strategic research in the province.
- Some like the distinction between social, economic and educational benefits accrued through health research, and suggested following indicators of progress in all these areas.
- It is important to think about ALL sources of research money into the province (e.g. pharmaceutical companies, health charities, foundations, federal and provincial funding agencies, private donations, industry), but to recognize that some sources (e.g. CIHR, SHRF) are particularly important because they are what reflect funds competitively earned.
- Any decisions determining research priorities should mirror the important demographic and socio-political characteristics of SK(e.g. large and growing Aboriginal population, rural and remote distribution of relatively stable population, high proportion of elderly, existing partnerships and structures for addressing health related issues).

Many suggested SHRF funds should be used for 'strategic purposes' and that money to address strategic issues should be 'new money'. Many thought SHRF funds should be used to 'lever' other funds, rather than be seen to be a primary source.

Areas seen to be of substantive strategic importance to SK include:

- Aboriginal health. This was overwhelmingly the topic at the top of people's minds. In some of the topics mentioned below, they were also inextricably intertwined with Aboriginal health issues.
- Community based and community focused research. This topic encompassed a wide range of thoughts; from engaging community organizations in the 'doing' of research to acknowledging the importance of research initiated in community (often for organization specific purposes), to a focus on prevention and wellness (or a 'holistic' approach) to collaboration among community groups and universities. There was just an underlying sense of the importance of this dimension to future health endeavours.
- Data access, quality and use for planning and evaluation is still an issue to many.

Considering the above, and despite the reluctance to discuss CIHR pillars, one gets the sense that many of the strategically important areas mentioned would translate to action in population health or health services and policy research. However, there was an acknowledged recognition that some level of baseline activity across the research spectrum is important from the perspective of recruiting and retaining adequate numbers and highly skilled practitioners, which is vital to the health system overall. A solid base foundation of research activity in the province is the 'feedstock' for focused and strategic research, and it is important to support that. Senior investigators are the core engines of research growth. Each active investigator creates capacity to involve students, support partnerships and position the province for return on research investment.

Some suggested that thinking of 'pillars' (as in CIHR) was another form of 'silos', and the trend is to get away from silos. That being said, some acknowledged that seeing how resources were allocated across pillars would be of interest, particularly as CIHR was probably not going to stop looking at things this way. However, considering how resources were spent among pillars should NOT be the driver in decision making. Decisions should be based on strategic directions, and progress in those areas measured and reported, rather than focusing on CIHR pillars.

OUTCOMES OF INTEREST

Given that participants did not really wish to engage in a discussion of allocation of resources amongst the pillars, they were asked what indicators they might look to in five years time to make some assessment of whether the health research investment had paid off. Following is a list of the predominant themes among the six groups:

- Substantive progress in areas defined as strategically important (e.g. Aboriginal health; mental health; aging; reduced surgical wait lists.
- Reduced inequities between Aboriginal and non-Aboriginal health (e.g. more Aboriginal people participating and leading health research.
- Ability to make decisions based on cost-effectiveness.
- Primary health care (defined generally as effective health service delivery systems).
- Community based health care and services (meaning often a focus on prevention, rather than illness services.
- Some population health type indicators: e.g. proportion of Aboriginal males completing Grade 12.
- SK is a 'magnet' for researchers in a few areas.
- Economic impact (commercialization results, but also consideration that reduced demand on the health care system results in economic benefit for province).
- Recruitment and retention of a stable core of researchers.
- Achievement of national averages in funds earned through competitive processes.
- Partnerships (with health regions, community based organizations) exist.
- Traditional academic yardsticks are important (peer reviewed publications, dollars raised; number of graduate students engaged); but need to expand to measure and report on impact of research as well (practical payoff).

- Increased productivity of existing complement of researchers in universities.
- Sense of pride in SK research among public.
- Social benefit, economic benefit, educational benefits from health research.

The indicators above represent four main areas: Health status, health system, academic system, and the public.

KNOWLEDGE TRANSLATION

There were five main themes emerging from discussions about knowledge translation: the importance of doing research in a particular way to enhance uptake, a conceptual framework for knowledge translation, specific organizational roles, notable examples in SK, and commercialization as a means of knowledge translation. The first two topics are incorporated into the first bullet.

A conceptual framework for knowledge transformation.
In one of the sessions, knowledge translation was described as being comprised of three stages: knowledge generation, knowledge transfer and knowledge uptake. Throughout the sessions, comments were made that can be linked to that framework. There are attributes of the **knowledge generation** process which contribute directly to knowledge translation. Involvement of the eventual users of the research knowledge in the process from the beginning (including the development of research questions) increases the chances of uptake. The point was made that involvement in clinical research increased the likelihood that research evidence was incorporated into decisions. This observation was coupled with the opinion that clinical research involvement was less predominant in SK than was ideal, partly perhaps to the misconception on many people's part that clinical research was often equated with randomized controlled drug trials. The fact that funding for clinical nursing research is also difficult to obtain in Canada was noted as a contributing factor[1].

The second component of knowledge translation is **knowledge transfer**. This is acknowledged to require specific skills (e.g. writing for lay audience, incorporating innovative and creative communication approaches) and resources. We are 'information rich, and understanding poor'. Approaches to 'make sense' of vast amounts of information are important in the knowledge transfer component. Examples include things such as the Cochrane Collaboration database (which the Health Quality Council is going to make available to all health organizations in SK shortly). There are examples of organizations in the province that serve a 'knowledge interpretation' role, such as Rx Files an organization sponsored by pharmacists which provides objective information on drugs to practitioners. Also, the University of Saskatoon is taking steps to support researchers with this process, and at least two health regions have active processes (at least in the planning stages) to support knowledge transfer and knowledge uptake). It was acknowledged that there is a lot of good knowledge available already, and we need to learn

[1] The fact that the nursing research money has gone nationally to the Canadian Health Services Research Foundation (CHSRF), who does not support clinical research was cited as a barrier.

better how to access it, and how to apply it. Behaviour change, particularly as it relates to lifestyle and health, is a big part of future health potential.

The final component of the knowledge translation framework is **knowledge uptake**. There are many different contexts where research could potentially be used e.g. doctor/patient interactions, health region boards, program delivery, community based organizations, and they all require somewhat different considerations. Receptor capacity in the various relevant contexts is part of the solution. Inertia and difficulty in changing current practices is a significant factor in service delivery organizations, complicated of course by the demands on the daily time of practitioners and decision makers. Cycling back to the knowledge generation component, the suggestion was made that if health region boards could be involved in setting some of the strategic directions for research in the province that they may be more receptive to results when they are available. Applying knowledge is at some level a political process, with competing interests at play all the time.

Successful examples exist in SK.
Several examples of programs or organizations in the province which exemplified important aspects of knowledge translation were mentioned. They include: various practices that the Health Services Utilization and Research Commission (HSURC) used to have (e.g. daily list serve messages; newsletters with brief articles on key methods to enhance knowledge transfer and uptake); community – university research partnerships such as 'In-Motion' (a large research project funded by CIHR focusing on physical fitness), Community University Institute for Social Research (CUISR), community/ university partnership research projects such as occur in Prince Albert and the Institute for Agricultural, Rural and Environmental Health (I.ARE.H).

Respective Roles of Organizations in SK.
When thinking about the province as a knowledge utilization system, it is clear that there are several organizations which play a role, and ultimately it will be important for all stakeholders to understand what the respective roles are. In the groups, there was a lack of understanding of these roles reflected in comments and questions. This is not surprising, considering the stage of evolution, and that organizations such as the Health Quality Council, SHRF and the Academic Health Sciences Network are just in the early stages of formation. Organizations in the province which were identified as needing to be part of the knowledge utilization system include: HQC, SK Health, health charities, SK Cancer Agency, and health regions. Several discussions reflected the need and desire for some sort of 'gateway' to information and knowledge; often described as a clearinghouse, or a coordination centre.

Commercialization is a means of transferring knowledge.
There are varied perspectives about commercialization with some strongly opposed, and others feeling it is a key component of progress. Others spoke of middle ground where commercialization makes sense if it is a byproduct of other activity. On balance, though, participants felt that there were resources for supporting this type of activity from other sources in the country, and this should not be a particular focus of SHRF.

CAPACITY BUILDING

University setting

On balance, the predominant focus was on young people; bringing young people (starting in high school) into the research enterprise. The important contribution of establishment grants to the decisions of several researchers involved in the roundtables to come to Saskatchewan and establish their careers here was noted. However, there is also acknowledged need and room for improvement at more senior levels, where groups of researchers configured in a way that creates synergy and higher levels of productivity is important. Senior established investigators are the 'engines' of growth. It is them that has drawing power for graduate students and junior faculty; and them that compete for national funds. Access to clinical research settings is important for enabling clinical research.

Outside the university

Capacity within health service delivery organizations and within community based organizations is also important. This relates to capacity both to engage and participate in research (and perhaps even to lead), and also to enable uptake and use of existing knowledge. Community based research and research that involves community university partnerships is an important theme in SK, and there is considerable room for improvement in the ability of those outside universities to engage fruitfully in this process. There was a very explicit plea from Aboriginal communities AND non-Aboriginal community based organizations that researchers in universities do research WITH them, and not ABOUT them.

One novel suggestion geared at enhancing capacity included that of recruiting and training educated and experienced mature adults (e.g. early retirees) to participate as community based researchers. The focus on youth was not limited to involving them as students in universities. There was a focus on youth from the health issues perspective as well; there are many health and lifestyle issues among young people, particularly Aboriginal, and this generation is the future of the province.

Mechanisms to enhance capacity

The main theme here related to mechanisms which enabled linking and networking and those which enabled up front opportunities to help shape research. The important contribution that small grants (several thousand dollars) could make (and in fact had made) to community based research was noted on several occasions. Administrative support is important in both university and community settings to support research. With increased opportunities, and increasingly complexity of funding patterns and sources, and the increased expectations for partnering etc., just organizing a lot of events and meetings and applications is a considerable burden. Some sort of a research network was mentioned in several sessions. The underlying idea was to have some ongoing means of connecting and learning who was doing what so that when a research related topic or question came up, there was a relatively efficient way to engage.

Public support is important
Public and acknowledged support for research is seen to be an important enabler. If the province were to provide a significant bolus of funds to research, this would send a very important signal to the SK public and others outside the province that SK is 'serious' about making improvements through research.

Data quality and access. Although a recurring theme for many years, this topic emerged as important to many still.

PARTNERSHIPS

This topic received less 'talk time' than other topics, but there were some points that emerged of note:

The private sector
There are mixed (and strong) feelings with respect to partnerships with the private sector, and particularly the pharmaceutical industry. In one group, there was general agreement with the statement that 'no one should profit from publicly funded research done in public institutions. Some in this group felt that while profit should not DRIVE action, it should be incorporated as a goal when it seemed a natural byproduct of activities done primarily for other reasons.
In another group, they felt that even if pharmaceutical company gave money with 'no strings attached' that there would be an implicit sense of 'obligation' which would influence research.

The public
An underlying theme emerged that the research enterprise needed a strong and positive and supportive relationship with the general public. Public support for research is an important background factor. Enthusiastic public support could translate into more money for research, either through direct donations, or through advocacy efforts toward more investment in health research. Starting to engage SK residents in thinking about health research should begin at a young age (high school).

Health charities
Health charities are important funders of health research in SK. There is opportunity to work directly with charities to increase public support and provincial support (and perhaps funding) to health research. Charities are an important mechanism through which to influence public policy about such things as tax incentives and priorities for action.

Regional health authorities and community based organizations
Partnerships between researchers and those who use research knowledge are an important component of the research enterprise. Health regions are a large component of the application of research. Community partners in research feel strongly that partnering means true involvement and NOT co-option. Several community based partners pointed out that there were investments needed in their communities as well to enhance research impact. Participating in research consumes resources (often human resources) and they also need appropriate skills and knowledge to engage effectively.

Public interest and advocacy groups
In addition to those partners who are involved in program delivery, there are many groups in the province who have the ability to help shape future directions. Examples include 'Council of Women' in various locations and 'New North' (Saskatchewan Association of Northern Communities). 'New North', for example is organized to advocate, negotiate and initiate improvements for the interests and concerns to the Provincial and Federal Governments to enhance the quality of life for people within the Northern Administration District of Saskatchewan.

Partnerships to increase funding for research
There were several concrete suggestions offered as potential ways to increase funds for research:

- CIHR institutes who have identified priorities that are also important to SK. Institutes are seeking partnerships arrangements on many fronts. Seek opportunities where money can be bracketed to return to SK. Specific examples given include Fetal Alcohol Syndrome and Aboriginal health.
- Health Canada has a special focus on Aboriginal health.
- Create or promote a situation in SK to make it particularly appealing to companies wanting to test services or products in a stable population of manageable size.
- Canadian Light Source in future should provide opportunities to attract funds.
- Facilitate public contributions directly to research. One suggestion was to create a matching program with the provincial government where each dollar given by a citizen would be matched by government. Tax incentives could be an important component.
- Foundations.
- Private sector companies with specific link to topic (e.g. brewing companies and fetal alcohol syndrome).
- Regional partnerships in western Canada.

Some expressed the opinion that we should not turn researchers into fund raisers, that there were more appropriate ways to seek increased funding, and this was mentioned as an appropriate role for SHRF.

FINAL MESSAGES FROM PARTICIPANTS FOR SHRF

In each roundtable, each participant was given the opportunity of making one comment which they felt reflected an important thought to leave with SHRF. These messages are given below, with predominant themes (in some way referred to by many people) stated first.

Focus and pursue strategic priorities rigorously. Without doubt, this was the predominant message for SHRF. While there were specific directions identified, the strongest message was, choose a direction and focus resources.

SK is too small to be all things to all people. There were suggestions about what that focus should include:

- Health of northern / Aboriginal people MUST be improved.
- Priorities should reflect demographic profile of SK (population, geographic dispersion, etc.).
- Build on SK strengths (stable population; relatively small research community; agricultural base).
- Several spoke in some way of the importance of a holistic approach to health; recognizing it is not a 'technical problem' to be solved. It is integral to our being and society; wellness, prevention, housing, nurturing environment, focus on future health, not present illness.
- A modest horizon (three years) and a commitment to being flexible as things evolve.
- Directions should be influenced by what is 'right' and not by the political cycle.
- The Minister of Health needs to make appropriate decisions as well as others.

More money is needed. Pleas to 'get serious' about supporting research were frequent. We live in a knowledge industry. Yardsticks of $20 million or one percent of health budget were mentioned by several as the key important message. For individuals prepared to commit their careers in an area, political and public commitment to a sustained research enterprise makes an important statement. One participant asked that researchers not be turned into fundraisers (such as sometimes occurs if you need to find matching funds).

Health research includes knowledge generation, knowledge transfer and knowledge application and has collective ownership. Research is not something of interest only to academic communities. Community and health service delivery organizations value, and sometimes do, research. This research should be seen as part of the whole research picture, and valued as such. Partnering among organizations with a desire to contribute to knowledge generation, knowledge transfer and knowledge application is key. Support and resources (skills, infrastructure, knowledge) is necessary to enable research related activities in all settings that need to be part of the knowledge process. Several spoke to coordination and optimization of people, structures and processes. Research in applied settings is closely aligned with program evaluation, and learning how to 'turn off' activities that are not benefit producing is part of the process of incorporating new knowledge. Research should be part of an integrated system of health service delivery. This integration includes education, service delivery and research.

Leaders and champions are the engine of progress. While there are many contributing factors to a successful research initiative or program; it is highly unlikely that they will happen without the passion and leadership of committed champions. In 2004, it is important that strong leadership of cross-sectoral, inter-disciplinary approaches be present. A network of researchers was suggested by several.

The public is an ally. The public likes to hear of progress, hear success stories, and is generally very supportive of health research. Individuals empowered with knowledge and encouragement to influence their own health, are an important part of the system. Individuals (acting alone or in affiliation with an advocacy group) can be powerful adjuncts to the health research system.

Other thoughts. Individuals offered other thoughts that were perhaps only referred to once:

- Canadian Light Source very important in future.
- Get administrative data files out of government.
- Clinical researchers are underrepresented and misunderstood.
- A novel way to increase capacity in research is to train skilled, educated early retirees to assist in research projects/ programs.
- Do an economic impact study related to SK health research.
- Remember the value that funders (i.e. CIHR) place on basic research.

OTHER COMMENTS AND REFLECTIONS

On balance, there was a higher proportion of community based individuals participating in these roundtables compared to the survey. The 'community' theme emerged very strongly in these sessions, but they also provided the opportunity to refine thoughts related to capacity and the research process as it is relevant in academic settings. Perhaps most importantly, the roundtables enabled the development of an understanding of the inter-relationships among the various entities.

APPENDIX 3

HEALTH RESEARCH IN SASKATCHEWAN:

SASKATCHEWAN HEALTH RELATED STATISTICS

NOVEMBER 2003

Document Prepared as Part of the SHRF Consultation Process to Consider Input Related to Health Research in Saskatchewan

HEALTH RESEARCH IN SASKATCHEWAN: CHARTING A PATH

PRESSING HEALTH ISSUES

Recent work in SK summarizing key outcomes and indicators of health and the health system provides further information to consider in each of the three topics identified by respondents as priority health issues.

Community Characteristics

- The Aboriginal population is large at 11.4% of the overall population (compared to 2.8% across Canada). It is also young. In 1996, 40% of it was under 25.
- The province has a large seniors population. In 2001, 14.6% of residents were 65 or older compared to 12.6% of Canadians.[1]

Health System and Policy Research

Structural characteristics

- In recent years, the number of acute and long term care beds has decreased, but the number of long term care beds is still significantly greater than the Canadian average.[1]

Process characteristics

- Circulatory disease accounts for the greatest number of hospital days in the province.[1]
- Reports of unmet health needs increased in SK between 1994/95-2000/01.[1]

Non-medical determinants of health

- The smoking rate in SK is 27.6%. This is higher than the Canadian average of 25.9% and much higher than that of the best performing province (20.5%).[1]
- SK has the fourth highest percentage in terms of the number of youths who are current smokers.
- The obesity/overweight rate in SK is 53.7%. This is higher than the Canadian average of 47.5%, and much higher than the best performing province (42.3%).[1]
- In 2001, over half the population aged 20 to 64 (excluding pregnant women) could be considered as high risk for contracting a health problem related to their weight.[2]

Health outcomes

- In 1999, life expectancy in SK (78.5 years) was half a year below the Canadian average, and 1.5 years shorter than the best performing province.[1]
- There is a significant regional variation in life expectancy in SK, which speaks to the importance of the determinants of health in influencing longevity [2] For example, in 1996, life expectancies ranged from 73.3 years (Northern Health Services Branch) to 79.9 (Swift Current service area).[1]

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[1] Health Quality Council. March 2003. *A picture of health in Saskatchewan: System characteristics, health determinants, and outcomes.*

[2] Saskatchewan Health. September 2002. *Saskatchewan comparable health indicators report.* Online. Available: www.health.gov.sk.ca/comp_health_indicators_rep/Section%201%20-%20Comparable%20Health%20Indicators%20Report%20Introduction.pdf

- Life expectancy among First Nations people is five to six years shorter than the Canadian average.[1]
- The leading causes of potential years of life lost for both SK and Canada overall are injuries, suicide, and lung cancer.[1]
- Arthritis, pain, and high blood pressure are the three most common chronic conditions.[1]
- The depression rate (7.1%) is much higher in SK than the best performing province (4.7%), but the same as the national average.[1]

Statistics Canada[3] provides further data:

- In 2000/01, the proportion of residents in the far north of SK (Northern Health Services Branch) that rated their health as either very good or excellent was 53.2%. This is significantly lower than the Canadian average of 61.4%.
- In 2000/01, the rural Prairies, including SK, had a high proportion of overweight and obese residents with several SK regions having a proportion significantly higher than the national average.
- The rural Prairies have significantly higher rates of arthritis/rheumatism.
- The Saskatoon Service Area has a significantly high incidence of depression (9.6%) compared to the national average of 7.1%.
- The prevalence of very good or perfect functional health in several SK health regions is lower than Canadian rates.
- Life expectancy at birth and at age 65 in the Northern Health Services Branch is significantly below the national average.
- SK residents are the least likely to eat fruits and vegetables five times or more each day compared to other provinces and territories.
- Several rural health regions have low rates of contact with mental health professionals.

[3] Statistics Canada and the Canadian Institute for Health Information. May 2002. *Health Indicators*. Volume 2002, No. 1. Catalogue no. 82-221-XIE. Online. Available: www.statcan.ca/english/freepub/82-221-XIE/00502/pdf/high2.pdf

APPENDIX 4

HEALTH RESEARCH IN SASKATCHEWAN:

HIGHLIGHTS OF KEY ORGANIZATIONS

NOVEMBER 2003

Document Prepared as Part of the SHRF Consultation Process to Consider Input Related to Health Research in Saskatchewan

HEALTH RESEARCH IN SASKATCHEWAN: CHARTING A PATH

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ACADEMIC HEALTH SCIENCES NETWORK

Brief Description

Consistent with the Noseworthy recommendations (1999), the Health Sciences Advisory Council was formed in January 2000 to address the optimum use of the resources within the University of Saskatchewan in the interests of health care. The Fyke and the Glynn reports (2001) recommended that the Saskatoon Health Region be designated an academic health sciences centre. Consistent with all of these recommendations and the recently released Action Plan for Saskatchewan Health Care, the Council agreed to the establishment of a Saskatchewan Academic Health Sciences Network to enhance clinical services, conduct health research and educate future health care professionals through the joint and collaborative relationship of its interdependent partners. The partners include Saskatoon Health Region, the University of Saskatchewan, Regina Qu'Appelle Health Region, Saskatchewan Health, Saskatchewan Learning, other provincial health regions, and the Province of Saskatchewan.

Current Structure and Involvement in Health Related Research

The Saskatchewan Academic Health Sciences Network Board acts as the governance entity. The primary responsibilities of the Network Board are the identification of strategic objectives and general oversight of the Network and its Management Committee.

The Network will strive to develop areas of service, research and teaching excellence including some or all of the following:

- Primary health care research and delivery;
- core specialty services;
- integrated teaching and learning models for health professionals;
- strategically focused areas of bio-medical research;
- Aboriginal health; and,
- population and community health.

The Network Board is comprised of representatives from provincial health regions, the University of Saskatchewan, and the Province of Saskatchewan, with chair responsibilities shared by the Chairs (or designates) of the Board of Governors of the University and the Board of Saskatoon Health Region. The Network Board will have a joint reporting relationship to the University of Saskatchewan Board of Governors and the Board of Saskatoon Health Region and its continued existence is dependent on the agreement of both partners.

Membership of the Network Board will be as follows:

- Co-chairs (one University of Saskatchewan and one Saskatoon Health Region Board Member);
- four members appointed by Saskatoon Health Region;
- four members appointed by the University of Saskatchewan Board of Governors;

- one member representing the Regina Qu'Appelle Health Region;
- one member representing other Health Regions in the province;
- a representative from the Department of Learning; and,
- a representative from the Department of Health.

Initially, the Management Committee will comprise the Dean of Medicine, University of Saskatchewan and the Physician Vice-President, Saskatoon Health Region who will act as co-chairs.

Strategic Priorities and Plans for Future

The objectives of the Saskatchewan Academic Health Sciences Network are to facilitate the development of:

1. **Accountability Framework:** A set of agreed upon goals, expectations, resource requirements and evaluation criteria among the partner organizations (U of S, Saskatoon Health Region, Regina Qu'Appelle Region and Government) that will be implemented to achieve excellence in the education of health professionals, the conduct of high quality basic and clinical health research and in the provision of health services to the residents of Saskatchewan.

2. **Joint Agreements with Professional Groups:** Joint agreements in consultation with those health service professionals working in both the university and in the health districts so that there is a clear understanding of their roles and expected time commitment in the areas of teaching, research and service. These agreements would be developed both for groups of health professionals within specific clinical areas to foster a team approach and with health professionals on an individual basis in order to reflect differences in the expectations of each individual.

3. **Initiatives:** New models of health promotion, health care and delivery in consultation with health providers so that there is an integration of education, research and service involving, where appropriate, a team of health professionals from different disciplines.

4. **Education:** Health professional education programs, both enhancing existing programs and creating new programs, where necessary, and implementing new processes to better meet the current and emerging clinical education needs so that graduates are appropriately prepared to provide high quality health services, teaching and research.

5. **Research:** Health research in Saskatchewan both in terms of the volume and quality of research by fostering the creation of strong research teams involving existing researchers and linkages to researchers in other academic health centers, the identification of distinctive research areas of relevance to Saskatchewan and facilitating a closer relationship of health research with health service.

6. **Affiliations:** Affiliations with other academic health centers in western Canada that are built on a recognition of each others strengths, provide benefits to all parties and achieve significant value added benefits to Saskatchewan residents.

7. **Linkages:** Effective linkages with other provincial organizations so that all resources and strengths in this province are appropriately utilized to achieve the goals of the Saskatchewan Academic Health Sciences Network and so that the Network can contribute to the goals of the other organizations.

8. **Space:** A plan to provide safe and adequate space for the patient care, research and learning.

Comment on Relevance of Health Research to This Organization and its Future

Health research is one of the key aspects of the Network's vision; it is enhanced through interdependent relationships and will ultimately benefit residents of Saskatchewan and beyond.

This organization will help ensure an effective forum exists to identify priority areas for action in health research. It will foster quality research in selected high priority health issues and thereby improve the competitive position of this province in national research funding.

Transfer of research information is very important. The Network will facilitate the diffusion of research findings to health service and educational programs in order to promote the ongoing adoption of best practices.

Sources Consulted

- Web site: www.saskhealthsciencesnetwork.usask.ca.
- Our Journey to Better Health. The Vision and Strategic Directions for Academic Health Sciences.
- Don Phillipon, Executive Director, Academic Health Sciences Network
- Progress on the 2002-2006 Planning Framework: 2002-03 Annual Report to the Board of Governors, Web site:www.uregina.ca/presoff/issues/AcademicPlanning/JUNE%202003%20BOARD%20REPORT.pdf.
- University of Saskatchewan. (2002) Renewing the Dream.

HEALTH QUALITY COUNCIL

Brief Description

The Health Quality Council is a new independent agency that will report on and recommend innovative ways to improve quality within Saskatchewan's health system. Established January 1, 2003.

- Led by an appointed panel of provincial, national and international health leaders.
- HQC will provide advice to government, regional health authorities and health care professionals on a wide range of issues related to health system quality and performance.
- The council is the first of its kind in Canada.

The council proposes to make quality improvements by encouraging use of the best evidence and best practices from around the world.

Current Structure and Involvement in Health Related Research

HQC's mandate includes the following:

- Develop evidence-based standards in heath care delivery. This will include advice on the use of existing treatment options and identifying outdated ineffective treatments.
- Promote effective practices to professionals across the province.
- Conduct research into the effectiveness of care and quality improvement.
- Monitor and assess the performance of the health system. This will include advice on human resource needs.
- Evaluate new technology, drugs and other clinical developments.
- Inform the public about the quality of health services in Saskatchewan.

A brief description of health related research initiatives that the HCQ has started are reproduced below:

Quality Improvement Network
This is a province wide network designed to encourage and support quality improvement activities throughout Saskatchewan. Many of the Health regions together with the Saskatchewan Cancer agency have joined the HQC in the formation of this network.
The network hopes to build up their quality improvement capacity and participate in provincial quality improvement exchanges and training programs. Their strategy includes identifying priorities, collaboration with others, use of evidence, measurement of quality performance, building capacity and taking action.

HQC Innovation Fund
The HQC is setting aside $200,000 for this fiscal year to support individuals eager to develop and test creative approaches to improving quality in Saskatchewan's Health Care system. They hope to encourage people to think beyond the ways quality improvement has traditionally been done. The council is looking for projects that will potentially contribute to broader quality improvements through wide spread information dissemination. Criteria for project selection include:

- Impact: identify quality gaps and the extent of the burden
- Improvability: does a best practice model exist and if so how big is the gap between this and current practice?
- Spreadability: what is the potential advantage to this new approach and how easy is it to implement?

The HQC Board and the Quality Improvement Network will select winning projects.

Participation in SEARCH: A new partnership between HQC and the Alberta Heritage Foundation for Medical Research (AHFMR) allows Saskatchewan managers to access a program called SEARCH: Swift Efficient Application of Research in Community Health. SEARCH began in Alberta in 1996 as a partnership between that provinces health authorities, Universities, private enterprise and the AHFMR. The program trains people in applied health research so they can ask and answer questions about the priority health issues in their own communities. It essentially prepares people to build capacity for using evidence based health care practices. Two employees from Saskatchewan have been selected to go through the two-year program.

Health Clips: This is a free online service provided by the HQC to improve information sharing and access. Every business day subscribers will receive a compilation of health services related information from various newspapers and medical publications. They also provide summaries of findings in the major medical journals.

Health Services Utilization and Research Commission (HSURC): While the launch of the HQC brought an official end to the utilization research arm of the HSURC, the council will build on HSURC's 10 years of work. They anticipate that research projects started under the HSURC banner will continue under the HQC. Specifically, these projects include: integrated care pathways, fracture/bone densitometry, health human resources, mental health, emergency services and optimal drug prescribing.

Strategic Priorities and Plans for Future

The HCQ after preliminary discussion has articulated six primary areas that they plan to focus on in the future. These include: access, applying evidence, primary health care, quality improvement, safety and policy analysis. An underlying research theme in all of these areas is the use of world wide "best practices" and obtaining specific outcome measures.

Through initiatives like the HQC innovation fund and the Quality Improvement Network the council hopes to be able to address some of these areas. The HQC also sees many future opportunities for collaborations and partnerships in the Saskatchewan health research environment as well as with the other Western provinces.

Due to the recent formation of the council they have articulated that their ideas about where to go in the future continue to evolve and develop.

Comment on Relevance of Health Research to This Organization and its Future

There were voiced opinions that HQC could perhaps take on the role of being some of 'knowledge repository' or 'knowledge brokering' organization that was mentioned during the consultation. Dr. Chan, CEO of HQC indicated that HQC will devote 50% of its resources to knowledge translation.

Sources Consulted

- Health Quality Council, Web site: www.hqc.sk.ca.
- Steven Lewis, Board member, Health Quality Council.
- Stewart McMillan, Board member, Health Quality Council.
- Update Bulletin: Health Quality Council, August 2003.
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REGINA QU'APPELLE HEALTH REGION

Brief Description

The Regina Qu'Appelle Health Region (RQHR): the largest health care delivery system in Southern Saskatchewan;

- Is one of the most integrated health delivery organizations in the whole country;
- offers a full range of hospital, specialty, rehabilitation, community health, emergency, long term care and home care services; and
- provides these services to over 245,000 residents living in some 120 cities, towns, villages, rural municipalities and 17 First Nations: largest number of First Nations within any region in Saskatchewan.
- Operating revenues in 2002 were $473.3 million and operating expenses for the year were $411.4 M.

The Regina Qu'Appelle Health Region has articulated five **values** that will guide them in the future. The one most relevant to research is:

Knowledge: the pursuit of knowledge, research and innovation guides our decisions and continuous improvement.

Current Structure and Involvement in Health Related Research

Clinical Research and Development Program

The RQHR believes that research and development are key factors to develop a better understanding of the health conditions that effect citizens of the region and to find better ways to deliver health care services. For this reason the region created the Clinical Research and Development Program to oversea all research activity in the RQHR. They are responsible to watch over all activities that are related to clinical research and development. The Clinical Research and Development program believes that the RQHR should aspire to become and promote itself as a leader in health research; the programs roles and responsibilities include the following:

- Conducting academic research in the field of health.
- Development and maintenance of productive relationships with community health care researchers and research agencies.
- Provision of education as it relates to research.
- Dissemination and publication of findings from research and development.

Three of the main activities within the program are reproduced below.

Research Consulting: Members of the clinical research and development program will act as research consultants to anyone in the RQHR who needs assistance designing a study, analyzing research data or interpreting research findings. Some of the topics of research that was conducted in 2001 include: surgical waiting times, cardiac rehabilitation, cancer, long term care facilities and health care management.

Clinical Outcomes Research: One goal is to provide leadership and direction on health research issues; specifically looking at accountability, effectiveness and efficiency of services. Clinical Outcomes Research typically designs studies to be able to answer which services are most cost-effective and efficient for which patients under which circumstances.

Research Ethics Board: The Research Ethics Board prior to commencement must approve all research, which is to be conducted within and/or under the auspices of the RHD. This approval will ensure that generally accepted ethical guidelines are met and followed

One of the mandates of the Clinical research and Development program is that their goals and objectives must be aligned with those of the RQHR. As indicated earlier the region has identified five values to help them achieve success. The specific initiatives relating to health research that they have undertaken are reproduced here:

Knowledge and Collaboration

I. Partnership with the College of Medicine: The University of Saskatchewan College of Medicine and the Regina Qu'Appelle Health Region have an affiliation agreement. Part of this affiliation involves first, second and third year medical students conducting research and receiving training in Regina facilities. The aim of the affiliation is to enhance learning and knowledge transfer for both parties.

II. The Saskatchewan Academic Health Sciences Network: The network was developed in 2000 as a system for partnership to enhance interdependence in service, research and teaching. The partners include Saskatoon Health Region, the University of Saskatchewan, Regina Qu'Appelle Health Region, other provincial health regions, and the Province of Saskatchewan. Individual partners maintain their primary responsibilities, but where joint collaboration can enhance optimal delivery of service to clients, the Saskatchewan Academic Health Sciences Network is expected to assist through collaborative practices and processes in the achievement of enhanced service, research and teaching. Key focus areas include:

- Primary health care research and delivery;
- Integrated teaching and learning models for health professionals;
- Strategically focused areas of bio-medical research;
- Aboriginal health; and
- Population and community health.

III. Aboriginal Health: Working Together Towards Excellence Project: The project's goal is to improve health outcomes of the First Nations and Métis people. The RQHR will work together with Aboriginal governments and organizations to provide health care services to Aboriginal people. The group believes that best practices should be employed to build First Nations and Métis human resources, research and service delivery capacity. As well they plan to see an increased amount of research activities focused on these populations. One of the 'core functions' of the excellence project is the creation of new knowledge. This is further described as carrying out research to fill important gaps in knowledge.

Strategic Priorities and Plans for Future

The Health Region has articulated that teaching and research has been included as one of nine 'strategic thrusts' that will provide the region with a framework to follow for the next five years. Specifically, the goal of this strategic thrust is to gain recognition as an academic health services organization.

Another long-term goal of the Region is retention, recruitment and training of health care providers. It is believed that a strong academic research environment will aid in the attainment of this goal.

The Region plans to stay actively involved in issues that are of unique concern for their area. Specifically, the Aboriginal population. This is a group that is growing dramatically and has significant health need. Other areas of focus for the future include seniors and rural populations. All three of these groups represent large numbers within the Region with very unique health concerns.

In the next five years the Health Region would like to see an increase in research dollars and activities. There should be a focus on knowledge generation as well as an increase in applied research. This will help the region employ best practices in more of their services.

Sources Consulted

- Clinical Research and Development Program, Web site, www.medi-fax.com/rhd/crdp.
- Dwight Nelson, CEO, Regina Qu'Appelle Health Region.
- Regina Qu'Appelle Health Region 2002/2003, Annual Report.
- Regina Qu'Appelle Health Region, Web site, www.rqhealth.ca/index.shtml.
- Saskatchewan Academic Health Sciences Network, Web site, www.saskhealthsciencesnetwork.usask.ca.
- Working Together Towards Excellence Project, Web site, www.rqhealth.ca/programs/Aboriginal/working.shtml.

SASKATCHEWAN HEALTH

Brief Description

Saskatchewan Health is the provincial government responsible for all aspects of health care delivery in the province (with a few exceptions that fall under federal jurisdiction).

- In 2002 Saskatchewan undertook a major redesign of health governance moving from 32 health districts to 12 Regional Health Authorities.
- Saskatchewan Health sets policy and standards for health services and administers the health budget of more than $2 billion.
- Over 2/3 of the health budget goes to the 12 health regions.

In 2001 Saskatchewan Health created the Commission on Medicare. The mandate of the Commission was three fold:

- Identify key challenges.
- Recommend an action plan.
- Make recommendations ensuring long term stewardship.

The findings that are relevant to research are reproduced here:

The Commission found that Saskatchewan researchers tend to be spread very thinly over a large number of areas, partly due to the requirement of staffing a diverse array of fields in support of health science education. This is causing Saskatchewan to become increasingly less competitive in health research. This gap between the province and its neighbors will continue to grow unless there is policy backed by funding to reverse this decline. There is a real danger that Saskatchewan will not have much of a future in health research as scarce talent leaves and new recruits choose more hospitable locations. Why does this matter?

- The health sciences education programs are ultimately unsustainable without the contribution of good researchers.
- Research is the source of an evidence-based health system.
- A strategic research program can help solve problems unique or prominent in the province (Aboriginal and rural health).

In response to the Commission's report Saskatchewan Health created an action plan that offers a practical, balanced approach to change at a manageable pace.

Current Structure and Involvement in Health Related Research

The Action Plan articulates four primary focus areas as well as specific initiatives to meet their goals. The ones that are relevant to health research are included below.

Supporting Health Promotion and Disease Prevention

I. Implement better measurement and public reporting of Health Status: Together with researchers from the University of Regina and the University of Saskatchewan, Saskatchewan Health is conducting a major survey of Saskatchewan people in order to determine how health the population is. They are hoping to determine what is causing the recent improved health status and what is standing in the way of better health. The study will provide insights into the health of Saskatchewan people and establish baseline data for future reporting.

II. Northern and Aboriginal Health: These communities have their own unique issues and concerns around health care. These areas represent areas that Saskatchewan could become experts in. Leaders from the Northern health districts and the Northern Inter-Tribal Health Authority are working on a Northern Health Strategy that is built on the principles developed by and for Northern residents. Together with the College of Medicine Saskatchewan Health hopes to establish a strong partnership with Aboriginal Institutions and organizations, and to give greater priority to Aboriginal Health issues, as part of a mandate that reflects priorities for health delivery in Saskatchewan.

Retain Recruit and Train Health Providers

I. Increased commitment to Health Sciences education and research: Health research is important to health care and the economic development of Saskatchewan. Medical specialists are attracted to locations with a strong research environment. Research focus will be on the health of our population and the effectiveness of our health programs. Saskatchewan Health increased support for health research by 40% in the 2002/2003 budget by adding $2 million to the $5 million invested in previous years. The main areas that received funding include:

- $1.3 million to the Neuropsychiatric Research Unit.
- $0.5 million to the Saskatchewan Cancer Agency.
- $250,000 to the Institute for Agriculture, Rural and Environmental Health.
- $ 225,000 to the Indigenous Peoples' Health Research Centre.
- $ 200,000 to the Steering Committee on Cancer Control Research.
- $ 100,000 to the Canadian Centre for analysis of Regionalization and Health.

The remaining funding was directed to the Health Services Utilization and Research Commission (HSURC), which in turn allocated a number of research grants. The SHRF has since replaced this arm of HSURC.

II. Saskatchewan Academic Health Sciences Network (SAHSN): Saskatchewan Health participated as a member of the SAHSN along with representatives from Regina and Saskatoon RHA's, the University of Saskatchewan and the Saskatchewan Learning. Their mandate is to promote and advocate excellence in clinical services, health research and education. SAHSN is currently consulting with 20 physician groups to explore how these three areas could be better integrated.

A Sustainable, Efficient, Accountable Quality Health System

I. Health Quality Council: The council is made up of a panel of provincial, national and international health leaders, who will be recommending innovative ways to improve the quality of health care for SK residents. The council is attempting to identify priorities and projects that will be most relevant to improving the health system and health outcomes. The HQC will focus on supporting decisions with evidence-based practices. The council is expected to prepare and release public reports on activities, research and recommendations developed.

Strategic Priorities and Plans for Future

Saskatchewan Health has articulated that their strategic focus should be on areas where they have a comparative advantage. The province has the opportunity to become a world leader in Aboriginal and rural health research, education and delivery. There is potential for a partnership with the federal government in this area.

In the future there should be a strong emphasis on internal and external partnerships and alliances involving the Universities, Health districts, SHRF, the Health Quality Council and Saskatchewan Health. As well, there should be increased focus on diffusion of research. The province needs to determine if we are actively using health research knowledge. Finally there should be increased emphasis on establishing a stable core of research at both Universities with a diffusion focus.

A commitment of at least 1% of the provincial health budget should consistently go to research Possibly as much as 1.5-2% in the long term.

Sources Consulted

- Glenda Yeates, Deputy Minister, Health.
- Caring for Medicare: Sustaining a Quality System, Commission on Medicare, 2001.
- Saskatchewan, Healthy People. A Healthy Province, The Action Plan for Saskatchewan Health Care.
- Saskatchewan, Healthy People. A Healthy Province, The Action Plan for Saskatchewan Health Care: A Summary.
- Saskatchewan Health Care, Web site, www.health.gov.sk.ca/.

SASKATOON HEALTH REGION

Brief Description

The Saskatoon Health Region is the largest health region in the province serving almost 30,000 residents in more than 100 cities, towns and rural municipalities.

- Established in 2002.
- Responsible for services ranging from hospital and long term care to public health and home care.
- 10.700 staff members that provide services and programs in 10 hospitals, 29 long term care facilities, five primary health care sites, four public health centers, numerous community based locations and in peoples homes.
- Annual operating budget is $503 million.
- **Mission**: "We work in a partnership to improve health and well-being through excellence in consumer-centered services, education and research".

The Region has identified five **values and goals**. The goals are discussed below. The values that have the most relevance to research include 'shared responsibility for improving health' and 'innovation and learning'.

Current Goals and Involvement in Health Related Research

The Authority has articulated five long term goals that are aligned with the long term goals of Saskatchewan Health. The goals relevant to health care research along with their most relative initiatives are reproduced below:

Enhancing Access to Quality Health Services

I. **Reduction in wait lists:** The Health Region implemented a comprehensive surgical wait list reduction strategy and are involved with the Saskatchewan Surgical Care Network in similar initiatives. In addition, the Heath Region has taken a leadership role in the Western Canada Wait List Project (WCWL). WCWL is a consortium of provincial medical associations, regional health authorities, the provincial governments and four heath research centers that are involved in examining and researching ways to decrease wait list times for surgery.

II. **Improved health for Aboriginal people:** The Health Region acknowledges the fact that the Aboriginal population is growing rapidly and that their health needs must be addressed in a more effective manner. Initiatives are being directed at identifying unmet needs and looking at ways to improve service for and the health of Aboriginal people. The Health Region is actively seeking participation from the Aboriginal population in its Community Advisory Networks. The Health Region will also take an active role in national and provincial diabetes research groups and Aboriginal women's health research.

III. **Telehealth**: This is an initiative aimed at providing and improving access to health care and education to patients, health care professionals and communities across the province. This is accomplished through the use of video and computer technology. It is believed that adequate IT infrastructure is needed to allow the Health Region to pursue health research in the future.

IV. **Long term care**: Initiatives to study and monitor trends in long term care utilization and wait list activities have been started in order to aid the region in future planning. As well, initiatives that are directed at improving the quality of life for long-term care residents are being carried out through the development and measurement of specific quality measures.

Healthy Communities Supported by Health Promotion and Disease Prevention

I. **In Motion**: One of Canada's top health concerns is inactivity. To deal with this Saskatoon District Health developed a program called In Motion. The goal is to increase physical activity among all age groups. In Motion is actively involved in research focusing on workplace wellness and is one of two national pilot sites for a study on increased activity levels called PACE Canada.

II. **The Health Show:** The show was designed to help improve health information to the public. It also focuses on increased knowledge transfer of research activities and results.

Healthy Operations

I. **Contributing to Western Canada health region teamwork:** Saskatoon Health Region and six of the other largest health regions in Western Canada have teamed up to develop an integrated Electronic Health Record in an attempt to standardize the way patient health information is collected. The seven health regions continually looking at other initiatives they might be able to collaborate on, including health education and research.

Innovation and Integration of Service

I. **Saskatchewan Academic Health Sciences Network:** The Saskatoon Health Region was a founding member of this organization. The network was developed in 2000 as a system for partnership to enhance interdependence in service, research and teaching. The partners include Saskatoon Health Region, the University of Saskatchewan, Regina Qu'Appelle Health Region, other provincial health regions, and the Province of Saskatchewan. Individual partners maintain their primary responsibilities, but where joint collaboration can enhance optimal delivery of service to clients, the Saskatchewan Academic Health Sciences Network is expected to assist through collaborative practices and processes in the achievement of enhanced service, research and teaching. Currently, the Network's key focus areas include:

- Primary health care research and delivery;
- integrated teaching and learning models for health professionals;
- strategically focused areas of bio-medical research;

- Aboriginal health; and
- Population and community health.

Additional areas of excellence may be identified and developed as the Network establishes itself.

Strategic Priorities and Plans for Future

The Health Region has articulated that monitoring and reporting, as well as quality is a priority focus for the organization going into the next year. In 2002-2003 the Health Region began working with the Health Quality Council to put a quality framework in place.

A variety of means are being used to assess the Region's needs and health status. The Saskatoon Health Region plans to remain active in areas of research that are uniquely appropriate for Saskatchewan (i.e. renal disease and Aboriginal populations). As well they plan to continue pursuing initiatives that will lead to increased collaboration and integration among the various involved parties. Specifically, the Health Region is planning to develop an intersectoral Comprehensive Community Information System to share data for policy making between various sectors.

Earlier this year the Health Region together with the Saskatoon City Hospital Foundation and family members of the late John Rependa broke ground on what will become the Rependa Memorial Education and Resource Centre. This center is expected to be fully operational by fall 2004. The centre will provide lecture, educational and meeting rooms and a resource library. The centre will serve as a dedicated area for physicians, nurses, people working in medical therapies, students and other health providers to learn about new techniques, technologies and research.

Sources Consulted

- Barry Maber, Vice President, Saskatoon Health Region.
- Saskatchewan Academic Health Sciences Network, Web site, www.saskhealthsciencesnetwork.usask.ca.
- Saskatoon Health Region, 2002/2003 Annual Report.
- Saskatoon Health Region, Web site, www.saskatoonhealthregion.ca.

UNIVERSITY OF REGINA

Brief Description

The University of Regina is the second largest university in Saskatchewan. It began in 1911 as Regina College; it later became a second campus of the University of Saskatchewan. In 1961 it acquired full degree-granting status and in 1974, the University of Regina was established by statute as an independent institution.

- 10 faculties including Kinesiology and Health Studies, Social Work, and Arts.
- 4,318 students (660 full-time undergraduate, 245 full-time graduate, 2,635 part-time undergraduate, 778 part-time graduate) in the summer semester 2002-03.
- In 2001/2002 research revenues totaled $19.4 M, up over 250% in four years.
- Three affiliated Federated Colleges: Campion College, Luther College and the First Nation's University of Canada. In May 1976, the Federation of Saskatchewan Indian Nations entered into a federation agreement with the University of Regina, creating the Saskatchewan Indian Federated College (SIFC). The SIFC has been a member of the Association of Universities and Colleges of Canada (AUCC) since 1994.

The university has articulated **values and goals** in six areas (people, teaching and learning, scholarship and research, service, internationalization, accountability). The ones most relevant to research are reproduced below.

Scholarship and Research
We have a healthy urge to know what is now unknown. Our investigation, reflection, and critique of tradition are rewarding to those involved. Our activities enrich the community. Our students are involved in research activities.

> *Goal:* Sustain a vibrant research enterprise where faculty members are enthusiastic about intellectual activity, **both curiosity-driven and applied**.

Service
Our scholarly community has expertise that can be used in service to society. We bring our expertise to bear on socially relevant problems.

> *Goal*: **Take our academic expertise into the community in response to requests or our own perceptions of need.**

Current Structure and Involvement in Health Related Research

The University of Regina research activities are organized under two structures: the Faculty of Graduate Studies and Research and a series of Centres and Institutes. The Centres and Institutes include:

- Canadian Institute for Peace, Justice and Security.
- Canadian Plains Research Centre.
- Centre for International Education and Training.
- Centre for Sustainable Communities.
- Centre on Aging and Health.
- Dr. Paul Schwann Applied Health and Research Centre.
- Humanities Research Institute.
- Indigenous Peoples Health Research Centre (IPHRC).
- Sample Survey and Data Bank Unit.
- Saskatchewan Instructional Development and Research Unit.
- Saskatchewan Institute of Public Policy.
- Saskatchewan Population Health and Evaluation Research Unit.
- Social Policy Research Unit.

A brief description[1] of those institutes most directly related to health issues follows:

Centre on Aging and Health
The centre aims to become a self-sustaining nonprofit centre that will become a world leader in Gerontology research. It's mandate includes attracting external monies, serving as a training centre, to facilitate collaboration among those conducting aging related research in SK, to link with health districts and national and provincial organizations, and to be multidisciplinary in its approach. The centre has received a NET (New Emerging Team) grant from CIHR for the Implementation and Evaluation of a Pain Assessment and Treatment Program for Seniors.

Dr. Paul Schwann Applied Health and Research Centre
This is a non-profit wellness centre located at the University of Regina that promotes healthier lifestyle attitudes and practices. Its mission is to assist individuals in the adoption of a lifestyle that provides for optimum health and well being. The centre provides a range of services to the community (e.g. supervised conditioning programs, cardiac rehabilitation, health promotion, services to individuals and corporate clients). Members include faculty in the Faculty of Kinesiology and Health Studies and they pursue individual research interests related to the mandate of the centre.

Indigenous Peoples Health Research Centre
The Centre is a collaboration between the First Nations University of Canada, the University of Regina and the University of Saskatchewan. Its primary focus is promoting and expanding health research among Aboriginal people in areas of Aboriginal health such as chronic diseases, Indigenous health, appropriate delivery of health services and prevention measures. IPHRC is supported by the CIHR- Institute of Aboriginal Peoples Health (IAPH) ($1.5 M over three years), and the Provincial Government ($2.5 M over five years). Funding provided to

[1] Information taken from University of Regina Web site, November 2003.

IPHRC is primarily focused on building capacity in health research among Aboriginal people, communities and institutions through trainee support, and promoting research into areas of Aboriginal health (through ACADRE program).

An important feature of this new centre is the enhancement of the role that Aboriginal people will play in finding solutions to their own health needs. The goal of this centre is to foster community-generated Indigenous research throughout Saskatchewan. In 2002, there were five graduate student research projects identified on the Web site, and 19 projects underway by undergraduates. An important feature of this new centre is the enhancement of the role that people will play in finding solutions to their own health needs. The goal of this centre is to foster community-generated Indigenous research throughout Saskatchewan.

Saskatchewan Institute of Public Policy
The Saskatchewan Institute of Public Policy (SIPP) is a non-profit, independent, non-partisan institute at the *University of Regina* committed to stimulating public policy debate and providing expertise, research and analysis on social, economic, fiscal, environmental, and administrative issues related to public policy. The Saskatchewan Institute of Public Policy (SIPP) has launched a new membership program* as part of its ongoing commitment to institutional evolution. SIPP is preparing an inventory of scholars in the province's universities currently engaged in research on public policy. The program goal is to encourage relationships with individuals and organizations to ensure beneficial exchange of information and participation in events. It is our hope that this membership campaign will successfully solidify positive relationships that already exist with our readership.

Saskatchewan Population Health and Evaluation Research Unit (SPHERU)
SPHERU is a two university, interdisciplinary research unit committed to policy relevant, community sensitive research on population health determinants. SPHERU research includes four main research themes: Economic and Environmental Globalization, Governance and Health; Community/Environment as a Health Determinant; Multiple Roles, Gender and Health; Determinants of Healthy Childhood Development. They have identified three cross cutting themes: Cultural Identify and Health; Capacity Building, Power and Powerlessness; and Employment, Work and Health. All research is conducted collaboratively by the multi-disciplinary research faculty, and includes, as partners community groups, policy workers, and researchers from other universities.

Social Policy Research Unit
This unit was established in 1972 as the research arm of the Faculty of Social Work. The unit conducts critical analytic research to promote social justice and enhance individual family and community development. The current research agenda covers social welfare policy issues related to employment, housing, health, home care, family violence, women's status, poverty, child welfare, First Nations people and the legal aspects of social work practice.

Strategic Priorities and Plans for Future

The University of Regina articulated six goals in 2002, one of which is 'Scholarship and Research'. The specific objectives are:

1. All faculty are active in scholarship and research and output continues to grow.

2. Student involvement in scholarship and research is increased.

3. Financial and administrative support for scholarship and research are doubled.

4. Total external research funding is doubled.

There has been some internal reallocation of resources to support these goals, and stronger links have been forged between established research centres, institutes and initiatives under five thematic emphases of Culture and Heritage, Energy and Environment, Health, Informatics, and Social Justice.

Comment on Relevance of Health Research to This Organization and its Future

The First Nations University of Canada (FNUC) is a federated college affiliated with the University of Regina. Given the importance of the Aboriginal community in future health issues, the existence of this university is of importance. It was established in 2003, having emerged from the Saskatchewan Federated Indian College, and is still in formative stages. FNUC is dedicated to promoting and expanding Aboriginal knowledge in teaching, research and service, and offers programs at three campuses: Regina, Saskatoon, and Prince Albert. The FNUC will strive to provide community based and distance education program in First Nations' communities across Saskatchewan and Canada.

Sources Consulted

- Web site www.uregina.ca (especially www.uregina.ca/presoff).
- Allan Cahoon, Vice-President, Research and International Affairs.
- Reaching our Potential: Planning for Progress 2002-2006, www.uregina.ca/presoff/issues/AcademicPlanning/2002-2006%20reaching%20our%20potential.pdf.
- Progress on the 2002-2006 Planning Framework: 2002-03 Annual Report to the Board of Governors, ww.uregina.ca/presoff/issues/AcademicPlanning/JUNE%202003%20BOARD%20REPORT.pdf.
- Strategic Research Plan for the Canada Research Chair (CRC) Program and the Canadian (sic) Foundation for Innovation (CFI) 2003-2007.

UNIVERSITY OF SASKATCHEWAN

Brief Description

The University of Saskatchewan is the largest university in Saskatchewan and was established in 1907.

- 14 faculties and schools including nine health related programs (Medicine, Nursing, Pharmacy and Nutrition, Clinical Psychology, Physical Therapy, Toxicology, Dentistry, Kinesiology, and Veterinary Medicine) There are also faculties of Agriculture, Law, and Arts and Science that may relate to health.
- In 2002, there were 15, 368 full time students and 4000 part time.
- In 2002-03, research revenue reached $115.8 million. That same year, research funding to the College of Medicine totaled $18.6 million.
- Seven (7) affiliated and federated Colleges.
- Arts and Sciences courses can be completed in six smaller communities.

The university set out to 'renew its dream' in 2002 which has led to an integrated planning process which is still ongoing. In 2002, the U of S stated that it wants to be known for adherence to international standards, academic pre-eminence and a 'sense of place'[2]. Four strategic directions were identified:

1. Attract and retain outstanding faculty.
2. Increase campus-wide commitment to research, scholarly and artistic work.
3. Establish the U of S as a major presence in graduate education.
4. Recruit and retain a diverse and academically promising body of students, and prepare them for success in the knowledge age.

Research Accomplishments

The U of S lists several notable accomplishments: The Canadian Light Source (opening in 2004), two Nobel Laureates, more than 100 new crop varieties, the first genetically engineered vaccine for animals, the first Canadian experiment undertaken aboard a space shuttle, and the first comprehensive history of native residential schooling in Canada.

Current Structure and Involvement in Health Related Research

The U of S is the only Anglophone University in Canada to offer the full range of health science colleges, all with intensive research programs. The Web site states that the university is also

[2] Sense of place is described as connections to Saskatchewan, western Canada, the north and Great Plains environment.

home to world-class animal and human vaccine research centre VIDO (Vaccine and Infectious Disease Organization).

A couple of years ago a University Coordinator of Health Research was appointed (jointly funded by SHRF and U of S). His role is to inform researchers at both Saskatchewan universities of funding opportunities, encourages applications and promotes collaboration. He also plays a role in maintaining relations between U of S researchers and other stakeholders.

There are currently 15 research units in the College of Medicine (e.g. Applied Research/Psychiatry; Cameco Multiple Sclerosis Neuroscience Research Centre; Cardiovascular Risk Factor Reduction Unit; Geriatric Assessment Program, Institute of Agricultural Rural and Environmental Health (I.ARE.H); Institute for Health Outcomes Research; Neuropsychiatry Research Unit; Reproductive Biology Research Unit; Research Centre for Elimination of Tuberculosis; Cancer Control Research Program; Heart and Stroke Epidemiology Unit; SK Pediatric Auditory Rehabilitation Centre; Sociobehavioural Cancer Research Satellite Centre; Stroke Research Centre; Sleep Disorder Clinic.

In addition there are other centres (e.g. Canadian Light Source; Saskatchewan Structural Sciences Centre; Vaccine and Infections Diseases Organization (VIDO); University Institutes of relevance (e.g. Community University Institute for Social Research; Research Units (e.g. SK Drug Research Institute); and associated Research Organization (e.g. SK Neuroscience Network; SK Population Health and Evaluation Research Unit (SPHERU); SK Institute on Prevention of Handicaps). Two of the health related research structures are joint U of S and U of R units (SPHERU and IPHRC <Indigenous Peoples Health Research Centre>) which isn't actually listed on U of S Web site.

It would appear from the Provost's White Paper on Integrated Planning (August 2002) that they are behind where they had hoped to be in the process at this time. A Conceptual Framework for Aboriginal Initiatives is scheduled for completion after the Research Plan is finalized.

Strategic Priorities and Plans for Future

The U of S is currently in the middle of an integrated planning process. All colleges are developing their own plan as part of this process. The College of Medicine's plan is available to view. Others which may be related to health are not yet publicly available. There is a Committee of Health Science Deans that meets regularly.

The U of S hoped to have College plans approved in the Fall of 2003. They are not all approved yet. Suffice to say that there are important decision-making and priority setting processes underway at U of S. Because the plans of all the Health Related Colleges are not available yet, it is not possible at the current time to develop a sense of an overall direction relevant to health. However, the College of Medicine is a major player, and their anticipated directions are germane.

In the College of Medicine Integrated Plan, data is provided about research funding by source. Fifty percent of the $18.6 million of research funding in 2002 came from publicly funded granting

agencies. The rest came from private sources for clinical trials (19%), and from 'other sources' (31%).

The College of Medicine integrated plan provides a description of current programs and organizational structure, an enrollment plan, research productivity, programming changes, and a comprehensive resource plan. Aspects of both the research and programming components relate to research. The College has described 11 priority initiatives:

- Aboriginal health
- Development of a School of Biomedical Sciences (to include anatomy and cell biology, biochemistry, microbiology, physiology, pharmacology).
- Development of research groups.
- Primary health care (interdisciplinary model)
- Information technology
- Rural health care
- School of Rehabilitation sciences (to include current physical therapy, physical medicine and rehabilitation programs and expand to include speech language pathology and occupational therapy)
- Clinical research
- Urban underserved
- School of Public Health (to incorporate many existing programs and research groups in the province)
- Internationalization

With a specific focus on increasing research productivity, the College has also identified specific areas for attention. Many of these specific directions are incorporated within the initiatives described above (e.g. the establishment of a Royal College approved Clinical Investigator program).

Comment on Relevance of Health Research to This Organization and its Future

U of S is clearly the most health research intensive organization in the province. The College of Medicine has been reviewed several times in the past few years, and recommendations made for improvement. The appointment of a University Coordinator for Health Research and the implementation of an integrated planning process are key steps at U of S. Because of the role the U of S plays in producing a large proportion of professional practitioners in the province, it's role and contribution are central to the health research enterprise in the province.

Sources Consulted

- College of Medicine Integrated Plan 2003-2007.
- Web site www.usask.ca (especially www.usask.ca/research).
- Bruce Waygood, University Coordinator of Health Research
- University of Saskatchewan. (2002) Renewing the Dream.
- Provost's White Paper on Integrated Planning (August 2002).

APPENDIX 5

HEALTH RESEARCH IN SASKATCHEWAN:

RESEARCH FUNDS TO SASKATCHEWAN

NOVEMBER 2003

Document Prepared as Part of the SHRF Consultation Process to Consider Input Related to Health Research in Saskatchewan

HEALTH RESEARCH IN SASKATCHEWAN: CHARTING A PATH

Table 1: History of CIHR Funding by Province 1979-2004

Table 2: History of CIHR Funding for Selected Provinces 1999-2004

Table 3: Canadian Research Information System: Research Dollars In Saskatchewan by Agency by Year

Table 4: Health Research Dollars Coming Into Saskatchewan by Varied Sources by Year

Table 5: Distribution of CIHR Dollars Amongst the CIHR Pillars for 1999-2000 to 2003-04 Combined

Table 6: CIHR Funding in Saskatchewan by Institution ($)

Table 7: SSHRC Health Funding in Saskatchewan by Institution ($)

Table 8: NSERC Health Funding in Saskatchewan by Institution ($)

Table 1: History of CIHR Funding by Province[1] 1979-2004

YEAR	BC	AB	SK	MB	ON	PQ	NB	PE	NS	NF	OTHER/ UNKNOWN[2]	OUTSIDE CANADA[3]	TOTAL (100%)
(% pop 2003)[4]	13.1	10.0	3.1	3.7	38.7	23.7	2.4	0.4	3.0	1.6	0.3		
1979-80[5] $	4,435,000	5,016,000	1,360,000	4,735,000	21,701,000	20,342,000	0	0	2,365,000	826,000	2,222,000	0	63,002,000
%	7.0	8.0	2.2	7.5	34.4	32.3			3.8	1.3	3.5		
1984-85 $	13,212,000	11,937,000	3,992,000	8,455,000	55,758,000	47,588,000	0	0	5,224,000	1,960,000	5,065,000	0	153,191,000
%	8.6	7.8	2.6	5.5	36.4	31.1			3.4	1.3	3.3		
1989-90 $	16,802,000	20,657,000	3,795,000	9,568,000	71,616,000	58,417,000	0	0	6,075,000	2,295,000	8,114,000	0	197,339,000
%	8.5	10.5	1.9	4.8	36.3	29.6			3.1	1.2	4.1		
1994-95 $	30,017,000	26,533,000	3,337,000	10,178,000	85,366,000	83,619,000	0	0	5,641,000	1,614,000	29,329,000	0	275,634,000
%	10.9	9.6	1.2	3.7	31.0	30.3			2.0	0.6	10.6		
1998-99 $	22,618,000	31,741,000	2,618,000	8,156,000	95,782,000	76,525,000	58,000	109,000	6,028,000	1,688,000	9,247,000	4,617,000	259,187,000
%	8.7	12.2	1.0	3.1	37.0	29.5	0.0	0.0	2.3	0.7	3.6	1.8	
1999-2000[6] $	26,453,500	36,178,989	2,776,533	8,593,296	114,364,740	87,525,091	86,702	134,377	6,583,925	1,869,266	6,859,036	4,813,010	296,238,465
%	8.9	12.2	0.9	2.9	38.6	29.5	0.0	0.0	2.2	0.6	2.3	1.6	
2000-01 $	34,312,903	44,556,691	3,607,465	10,013,780	146,932,927	107,013,341	103,508	201,810	7,497,013	2,241,593	6,962,436	6,342,181	369,785,648
%	9.3	12.0	1.0	2.7	39.7	28.9	0.0	0.0	2.0	0.6	1.9	1.7	
2001-02 $	50,298,725	58,690,207	5,693,709	15,953,524	193,876,771	138,524,973	406,472	510,120	11,921,795	3,518,067	6,622,049	8,508,975	494,525,387
%	10.2	11.9	1.2	3.2	39.2	28.0	0.1	0.1	2.4	0.7	1.3	1.7	
2002-03 $	62,390,348	68,089,072	7,349,750	17,752,994	230,686,846	164,236,275	487,158	534,881	14,579,773	4,155,694	7,950,655	8,538,231	586,751,677
%	10.6	11.6	1.3	3.0	39.3	28.0	0.1	0.1	2.5	0.7	1.4	1.5	
2003-04 $	61,922,380	71,093,182	8,009,017	17,947,423	230,147,169	170,785,682	720,347	728,675	13,346,416	3,607,129	6,973,182	7,470,905	592,751,507
%	10.4	12.0	1.4	3.0	38.8	28.8	0.1	0.1	2.3	0.6	1.2	1.3	

[1] NB and PE do not have medical schools.
[2] The data from SHRF included an "Other" category (i.e. up to and including 1998-99); the data from the CIHR database had a category of Canada with "N/A region" plus an "Unknown country" category. As it was unclear how these categories from these 2 sources overlapped, it was decided to combine them for the purposes of this table.
[3] What is known to be referring to "outside Canada" i.e. did not include "Unknown country".
[4] Statistics Canada web page: www.statcan.ca.
[5] $ up to and including 1998-99 have been rounded.
[6] from 1999-2000 onwards in this table the CIHR Funding Database was used; prior to this it was information from SHRF.

Table 2: History of CIHR Funding for Selected Provinces 1999-2004

YEAR	BC	AB	SK	MB	NS	CANADA TOTAL (100%)
(% pop 2003)[7]	13.1	10.0	3.1	3.7	3.0	
1999-2000 $	26,453,500	36,178,989	2,776,533	8,593,296	6,583,925	296,238,465
%	8.9	12.2	0.9	2.9	2.2	
2000-01 $	34,312,903	44,556,691	3,607,465	10,013,780	7,497,013	369,785,648
%	9.3	12.0	1.0	2.7	2.0	
2001-02 $	50,298,725	58,690,207	5,693,709	15,953,524	11,921,795	494,525,387
%	10.2	11.9	1.2	3.2	2.4	
2002-03 $	62,390,348	68,089,072	7,349,750	17,752,994	14,579,773	586,751,677
%	10.6	11.6	1.3	3.0	2.5	
2003-04 $	61,922,380	71,093,182	8,009,017	17,947,423	13,346,416	592,751,507
%	10.4	12.0	1.4	3.0	2.3	

[7] Statistics Canada web page: www.statcan.ca.

Table 3: Canadian Research Information System[8]: Research Dollars In Saskatchewan by Agency by Year

AGENCY	1999-2000	2000-01	2001-02	2002-03	2003-04	TOTAL
Arthritis Society				25,000		25,000
Canadian Institutes of Health Research	2,776,533	3,607,465	5,693,709	7,349,750	7,972,923	27,400,380
Heart and Stroke Foundation			944,865			944,865
Saskatchewan Health Research Foundation	426,210	796,789	951,452	1,238,562	1,061,764	4,474,777
Total	**3,202,743**	**4,404,254**	**7,590,026**	**8,613,312**	**9,034,687**	**32,845,022**

Information received from CIHR:

With respect to the amount of historical data available for each of the participating agencies, the earliest year available is as follows:

- Arthritis Society - 2002-03.
- CIHR - 1999-2000.
- Heart and Stroke - 2001-02.
- Saskatchewan Health Research Foundation - 1999-2000 (Data from HSURC)
- Canadian Prostate Cancer Research Initiative (CPCRI) - 2001-02.

It is expected that data from two other cancer related agencies will be added in the near future, those related to breast cancer and tobacco control.

The amount of historical data present is variable. There are several reasons for this. CIHR is the initiator and sponsor of the CRIS database, but CRIS is a project over which they do not have absolute control. They rely on the voluntary co-operation of other agencies in supplying their data.
While there has been much effort invested to ease the demands on agencies, there are costs to them (i.e. staff time) that cannot be avoided. Each determines the amount of effort that they are prepared to devote to gathering data and sending it to CRIS. Another factor is the format/media in which each agency maintains its data. Some maintain sophisticated databases, although in some instances the technology in use is old and not state of the art. Others maintain records in spreadsheets and even in manual records. So for some agencies, the effort involved is more than for others. As the manager of CRIS, CIHR has taken the approach that they work with each agency and use what data they are given.
In addition, the fiscal year varies amongst the agencies. CIHR's fiscal year begins April 1, Arthritis Society July 1 and Heart and Stroke on September 1, so even when the fiscal year is nominally the same, the time period may differ.

[8] Source: CIHR website, section on databases; webapps.cihr-irsc.gc.ca/pls/cris/cris_intro_e .

Table 4: Health Research Dollars Coming Into Saskatchewan by Varied Sources by Year[9]

	2000-01[10]		2001-02		2002-03		2003-04	
Source	**Total Cdn $**	**SK $ (%)**	**Total Cdn $**	**SK $ (%)**	**Total Cdn $**	**SK $ (%)**	**Total Cdn $**	**SK $ (%)**
NCIC[11]	43.4 million	296,197 (0.7)	47.3 million	336,646 (0.7)	49.8 million	338,533 (0.7)		
CIHR	363,443,467	3,607,465 (1.0)	486,016,412	5,693,709 (1.2)	578,213,446	7,349,750 (1.3)	585,280,602	8,009,017 (1.4)
SHRF		796,789		951,452		1,238,562		1,061,764
Genome Canada						12,602,465		12,602,465
NCE[12]		4,562,910		4,629,239		3,671,151		
SSHRC[13]	8,606,947	87,397 (1.0)	8,561,613	83,300 (1.0)	7,141,666	123,468 (1.7)		
Saskatchewan Lung Association		487,743		538,685		532,224		388,987
HSF				837,000		785,800		755,400
CHSRF			2,080,066	200,000[14] (9.6)	2,370,373	0	2,054,750	0
NSERC[15]	11,759,062	13,764 (0.1)	11,767,251	42,313 (0.4)	12,164,298	48,000 (0.4)		
Total		9,852,265		13,312,344		26,689,953		22,817,633[16]
Other (secondary) sources:								
CBRPE[17]		60,000		60,000		60,000		88,000
CKT						85,000		40,000

[9] This data was obtained directly from the agencies themselves.
[10] Agencies varied as to reporting by calendar or fiscal year. If funds were reported by calendar year the amount was bumped into the following fiscal year (e.g. calendar year 2000 reported as fiscal year 2000-01).
[11] Funds include Canadian Cancer Society, Terry Fox Foundation and clinical trial funding.
[12] These are health related NCEs only: Health Evidence Application and Linkage Network (HSURC and U of S), Canadian Bacterial Diseases Network (U of S), Canadian Network for Vaccines and Immunotherapeutics (U of S), Canadian Stroke Network (U of S) , Protein Engineering Network (U of S) and Canadian Water Network (U of S). There is a possible total of 22 NCEs altogether.
[13] SSHRC's amounts are those health related.
[14] Matching funds were also supplied by a Co-sponsor (cash=$233,780 and in-kind=$461,169) which increased the total to $894,949.
[15] Source: www.ost.uqam.ca/CRSNG/Outil.aspx?Langue=Anglais. Grants were selected on the basis of Human Health, Biomedical Engineering and Health, education and social services (not the overall grouped category).
[16] Total for this year does not include as many funds as previous years due to current unavailability of relevant data.
[17] Other NCIC money flows to the province through joint ventures including CBCRA, CPCRI and CTCRI

Table 5: Distribution of CIHR Dollars Amongst the CIHR Pillars for 1999-2000 to 2003-04 Combined

PILLAR	Saskatchewan $ (% each pillar)	% Canadian $ which fund that pillar in Saskatchewan	Alberta $ (% each pillar)	% Canadian $ which fund that pillar in Alberta	Canadian $[18] (% each pillar)
Biomedical	14,434,526 (52.7)	1.1	172,829,077 (62.0)	13.7	1,261,808,852 (55.2)
Clinical	548,146 (2.0)	0.2	10,536,724 (3.8)	4.8	220,854,412 (9.7)
Health systems/services	2,800,341 (10.2)	3.7	4,558,838 (1.6)	6.1	74,967,288 (3.3)
Social/Cultural/Environmental/ Population Health	4,656,383 (17.0)	4.3	7,360,913 (2.6)	6.8	108,109,529 (4.7)
Not applicable/Specified[19]	4,960,984 (18.1)	0.8	83,620,912 (30.0)	13.5	620,543,221 (27.1)
Total	27,400,380	1.2	278,906,464	12.2	2,286,283,302

[18] The total that was used for Canada was the total from the database with the 'unknown' country amount excluded.

[19] Re: 'Not applicable/Specified' – there are three reasons why a grant or award may be in this category:
(1) for some programs CIHR has determined that the assignment of a pillar category is just not appropriate. Many of the awards programs are in this list. Also included are programs such as exchange programs (with other countries) and the president's fund (which the president can award at his/her discretion). There are over 100 programs in this group.
(2) there simply may not be the information. The data was started to be collected relatively recently, within the last two or three years. Previously awarded grants did not have this information. Those grant holders were surveyed and data collected for many of them retroactively, but there are still gaps.
(3) a researcher may simply indicate that his/her research cannot be allocated to one of the main four pillars. They choose "none of the above". CIHR does not select the pillar category, the applicants do. If they cannot or will not choose one, it goes into the 'Not applicable/specified' category.

Table 6: CIHR Funding in Saskatchewan by Institution ($)

INSTITUTION	1999-2000	2000-01	2001-02	2002-03	2003-04	TOTAL (for all years in table)
University of Saskatchewan	2,711,341	3,547,503	5,292,716	6,350,837	6,420,732	24,323,129
University of Regina		20,822	150,993	498,913	1,052,191	1,722,919
First Nations University of Canada			250,000	500,000	500,000	1,250,000
Health Services Utilization and Research Commission	65,192	39,140				104,332
Total	2,776,533	3,607465	5,693,709	7,349,750	7,972,923	27,400,380

Table 7: SSHRC Health Funding in Saskatchewan by Institution ($)

INSTITUTION	1999-2000	2000-01	2001-02	2002-03	TOTAL (for all years in table)
University of Saskatchewan	36,620	47,391	66,680	88,068	238,759
University of Regina	33,240	22,306	16,620	17,700	89,866
Other	16,620	17,700		17,700	52,020
Total	86,480	87,397	83,300	123,468	380,645

Table 8: NSERC Health Funding in Saskatchewan by Institution ($)

INSTITUTION	1999-2000	2000-01	2001-02	2002-03	TOTAL (for all years in table)
University of Saskatchewan	37,711	0	42,313	48,000	128,024
University of Regina	33,033	13,764	0	0	46,797
Total	70,744	13,764	42,313	48,000	174,821